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Old Series, Vol. LIX

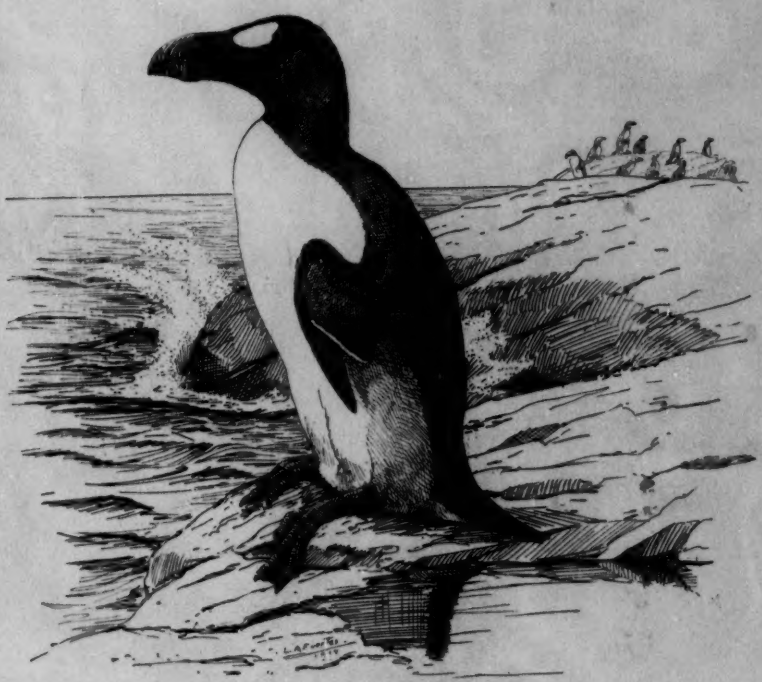
CONTINUATION OF THE BULLETIN OF THE NUTTALL ORNITHOLOGICAL CLUB

New Series, Vol. LI

The Auk

A Quarterly Journal of Ornithology

Vol. LI JANUARY, 1934 No. 1



PUBLISHED BY

The American Ornithologists' Union

LANCASTER, PA.

Entered as second-class mail matter in the Post Office at Lancaster, Pa.

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Old Series, Vol. LIX | Continuation of the Bulletin of the Nuttall Ornithological Club | New Series, Vol. LI

The Auk

A Quarterly Journal of Ornithology

EDITOR
WITMER STONE

VOLUME LI

PUBLISHED BY

The American Ornithologists' Union

LANCASTER, PA.

1934

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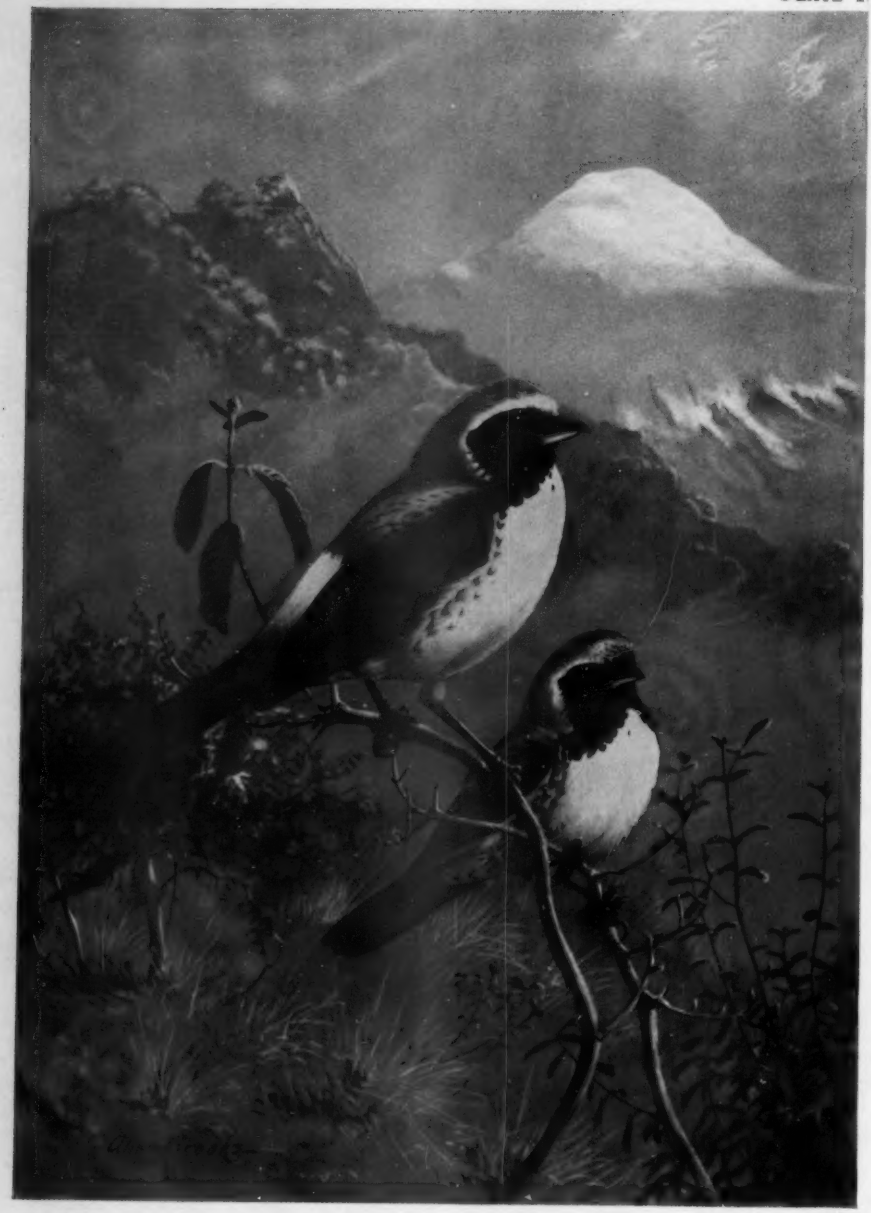


TEPHROPHILUS WETMOREI MOORE

THE AUK:

A QUARTERLY JOURNAL OF

ORNITHOLOGY.

VOL. LI. JANUARY, 1934. No. 1.

A NEW GENUS AND SPECIES OF TANAGER FROM ECUADOR.[1]

BY ROBERT T. MOORE.

Plates I and II.

THE new Tanager described below was secured by the writer in the Culebrillas Valley, northwest of Mt. Sangay, Ecuador, while conducting an expedition for the California Institute of Technology in 1929. It is not only specifically different from any known member of the family but is apparently not referable to any described generic group so that a new genus is established for it.

Tephrophilus gen. nov.

TYPE.—*Tephrophilus wetmorei* Moore.

CHARACTERS.—Bill short (length of maxilla from nostril about one quarter the length of the tarsus), stout (both depth and width at base of exposed culmen slightly shorter than gonys), slightly broader than deep; culmen straight for basal two-thirds, distinctly convex terminally, the tip of the maxilla slightly uncinate, with a distinct tomial notch behind point, sulcate, the groove being parallel with the culmen, very close to it and moderately deep; commissure undulating, the maxillary tomium, when viewed from below in profile, swollen and slightly convex at base, straight or slightly concave towards tip, possessing no median "tooth"; width of the maxillary tomia at nostril considerably wider than width of the mandibular tomia at the same point, creating a spacious effect;[2] mandible much more shallow than maxilla, sharply compressed towards tip, the lateral outline, when viewed from below, convex at base, then straight, then convex in the middle, then straight or slightly concave towards tip; rami of mandible thickened forming a strong ridge along base, swollen at

[1] Contribution from California Institute of Technology.

[2] Not due to distortion in "make-up"; true of all three specimens.

extreme base, forming a deep pit behind, differently colored from the maxilla (in the type pale mazarine blue); gonys slightly longer than length of maxilla from nostril, rather strongly convex, ascending, sharply contracted and sharply ridged for terminal half, with line of junction plainly marked, considerably longer than distance from angle of gonys to feathers on side of mandible; nostril exposed, slightly egg-shaped, occupying most of anterior end of nasal fossae; rictal bristles distinct as are the bristles in the interrammal space. Wing rather short as compared with tarsus and tail, from two and a half to three times the length of the tarsus, rounded, the first primary (counting from the outside) shortest and fourth primary slightly the longest (the third, fourth and fifth primaries about equal); the primary formula is rather unusual for the Thraupidae, resembling somewhat *Dubusia taeniata;* beginning with the shortest and running through to the longest, it reads 1st, 9th, 8th, 2nd, 7th, 6th, 5th, 3rd, 4th; longest primary exceeding first primary by more than one half length of tarsus; primaries exceeding secondaries by about 15 mm. Tail nearly as long (nine-tenths) as wing, strongly rounded, the outer rectrices from 10 to 15 mm. shorter than the median ones, with rounded tips, less than the basal half overlaid by upper coverts; tarsus unusually strong and long, about four times the length of maxilla from nostril, somewhat longer than middle toe with claw; feet, toes and claws unusually strong and powerful, much heavier than members of the genus *Buthraupis* of the same size such as *B. eximia eximia* or *B. eximia chloronota;* lateral claws not quite reaching to base of middle claw.

COLORATION.—Uniform dark golden green from middle of crown to rump. Rump yellow, wings and tail black, a black mask extending from lores, chin and upper throat around sides of neck and postocular region into rather wide superciliary stripe over eye, connecting with lores; a narrow border of yellow above black mask, extending from shoulders to lores and connecting above the nostrils. Rest of underparts yellow except for under tail-coverts and thighs which are dark warbler green. Lesser wing-coverts and margins of outer webs of greater wing-coverts light violet blue.

SEXES.—Different, but resembling each other.

RANGE.—So far as at present known, in the Humid Temperate Zone of the extensive ash canyons at base of Mt. Sangay, south central Ecuador.

Tephrophilus wetmorei sp. nov.

In describing the type species of the new genus, *Tephrophilus*, it seems particularly appropriate to name it for Dr. Alexander Wetmore, whose work in classification, dealing with the relationships of genera, has been outstanding. I take added pleasure in doing so because of the ties of friendship.

TYPE.—Male adult, No. 7010, Collection of Robert T. Moore; southeastern end of Culebrillas Valley, northwest (20° N. of W.) of Mt. Sangay,

Ecuador; Aug. 8, 1929; Robert T. Moore, collector; original field number EC-H254.

SPECIFIC CHARACTERS.—As the new species resembles no known Tanager in coloration, reference is made to the remarks above concerning generic comparisons.

GEOGRAPHICAL AND ZONAL DISTRIBUTION.—Probably confined to the Humid Temperate Zone of the Sangay Labyrinth of ash canyons from the bottom of the canyons up to the tree-growth on the northwestern slopes of the Labyrinth. I strongly question if this species descends into the Humid Sub-tropical. If it could endure this zone, it would surely have escaped from the Labyrinth during the major eruptions of Sangay via the main canyon that plunges eastward into the Amazon basin and would have been secured long ago by collectors.

DESCRIPTION OF TYPE.—Adult male, apparently in full breeding plumage, only the outer primaries still showing traces of sheath.—Type, No. 7010. Crown, hind neck, nape back as far as rump yellowish citrine,[1] each feather obscurely and finely bordered by black, slightly darker on lower back, and passing into wax yellow on the fore part of crown and posterior part of forehead; on the extreme anterior part the yellow is mixed with black. Lores, malar region, wide superciliary stripe, ear-coverts, sides of neck, chin, upper part of throat and sides of middle throat glossy jet black, relieved on the chin by very fine shaft-streaks of gray. A band of empire yellow—3/16ths of an inch wide—borders this black mask above, lying between it and the yellowish citrine of the crown and back; this band begins obscurely at the posterior border of the mask over the shoulder, proceeds vertically to the corner of the mask, then turns at right angles and proceeds to the forehead in a now solid band where it joins the wax yellow area. Under parts, including abdomen, breast and lower throat empire yellow mottled with light cadmium, a tongue of empire yellow extending anteriorly with a V-shaped point into the black of the upper throat; sides of breast and body blotched with obscure black, the obscurity being caused by the yellow feathers above which veil the spots; a wide patch of light blue violet covers the lesser wing-coverts and bend of wing; greater wing-coverts margined on outer webs with the same; rest of wings, primaries, secondaries and rectrices slate-black, less intense than black of mask; base of inner webs of primaries and secondaries neutral gray; rump light cadmium. Upper and under tail-coverts and tufts covering thighs warbler green, the feathers tipped here and there with yellow; thighs plain warbler green. Under wing-coverts dark gray, bordered posteriorily with a fine line of light gray; axillars dark gray mixed with obscure greenish blue. Eyes natal brown,[2] maxilla black, mandible pale mazarine blue, extreme tip black. Legs black, feet black, pads of toes light yellow.[2]

[1] Names of colors in paper taken from Ridgway, 'Color Standards and Color Nomenclature,' 1912.

[2] Colors of soft parts taken in field shortly after bird was collected.

ADULT FEMALE IN BREEDING PLUMAGE.—No. 7011, Collection of Robert T. Moore; southeast end of Culebrillas Valley, Ecuador, Aug. 8, 1929. Resembling male but darker, yellow band bordering face mask narrower and duller in color, about wax yellow; band interrupted over forehead, where it is replaced by olive-yellow, the center of each feather occupied by a small dusky spot; black mask dull without gloss, the feathers obscurely edged with yellowish gray; on the under parts the cadmium yellow confined to chest and to median line down the center of breast and abdomen, while the sides of body are more heavily blotched with obscure black, the blotches larger and more numerous on sides under wing; blue patch on lesser wing-coverts more restricted and duller; rump duller, between primuline yellow and wax yellow; in both females the main groove parallel with culmen is less deeply cut.

SPECIMENS.—One male and two females.

MEASUREMENTS.[1]—Wing, 105.3—101.3; Tail, 92.6—88.1; exposed culmen, 15.3—14.3; Tarsus[2] 34.8—34.8; Middle toe minus claw, 22.9—21.9; middle claw, 8.1—8.4; height of bill,[3] 9.9—10.1; width of bill,[3] 10.8—10.5; height of bill at center of nostrils, 8.1—8.4; width of bill at center of nostrils, 7.3—7.5; length of bill from nostril, 9.1—9.3; nostril to notch, 7.9—7.7; Gonys, 9.6—9.8; length from angle of gonys to feathers at side of rami, 6.9—6.2; amount of tail graduation, 15.5—10.4; excess of longest primary over first primary, 19.7—19.7; length of wing tip, 15.1—14.4.

As the new Tanager is a large species about the size of *Buthraupis eximia chloronota*, some affinities were anticipated with this genus although size was deemed of little importance. Detailed comparisons, however, developed an extraordinary number of dissimilarities and few resemblances. In general I am now rather confident *Tephrophilus* will eventually find a place among members of the rather artificial group, which Sclater described as the "Tanagrinae fortirostres." It possesses many important affinities with *Dubusia*. I have not seen *Dubusia stictocephala* of central Peru, but I possess an adequate series (14 specimens) of *Dubusia taeniata* (Boiss.). *D. taeniata* is a Humid Temperate Zone species of restricted range (Ecuador and Colombia), and one of the few tanagers found in the Sangay Labyrinth. It arouses speculative interest, therefore, to realize that it possesses as many important affinities with *Tephrophilus* as any other species or genus and reveals no more dissimilarities. On the other hand almost as many affinities exist, al-

[1] The average measurement of the two females for each item is given immediately after measurement of the male.

[2] Measured to last entire scute generally opposite anterior edge of hallux.

[3] Measured at base of exposed culmen.

though of different character, with *Thraupis darwini* (Bonap.). *Thraupis* and *Dubusia* supplement each other to such an extent, that hardly a single character exists, in which one or the other does not resemble *Tephrophilus*, and yet there are a great many dissimilarities between *Tephrophilus* and each of them, and between *Dubusia* and *Thraupis*. *Thraupis darwini* is also found today in the Temperate Zone not very far from the Sangay area, namely in the vicinity of Riobamba about forty miles to the northwest.

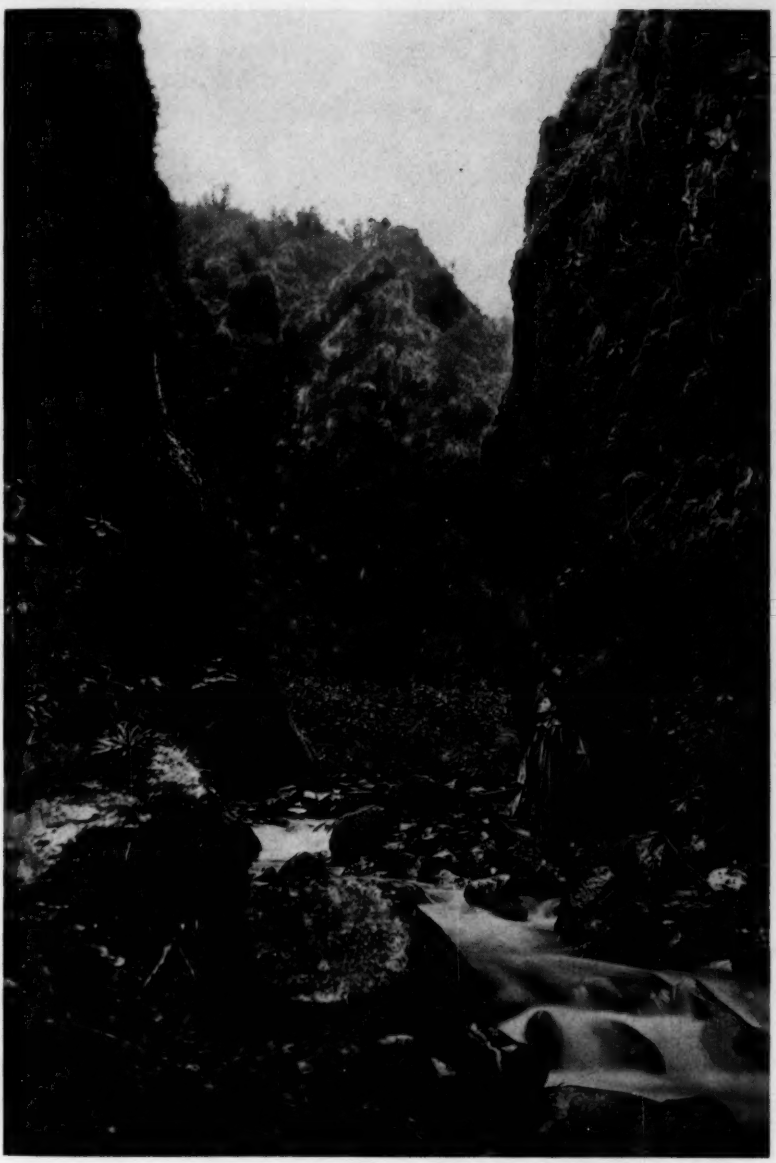
As far as external characters are concerned, *Tephrophilus* dovetails between the two genera. *Dubusia* resembles *Tephrophilus* as follows: In both, bills are about the same height at base as width at base. Both have the culmen strongly curved towards a slightly uncinate tip, with deep tomial notch; both have sulcate culmens, gonys rather sharply ridged, nostrils exposed and rather similar in shape and position, and wings about three times length of tarsus. It is rather extraordinary that *Dubusia* is the only genus (of those closely related) in which the primary formula is about the same and in which the *first* (outer) primary is the *shortest* of all. Both wings are rounded instead of pointed and the wing tip almost identical. The tails resemble each other closely, being unusually long, much rounded with broad rectrices and overlaid less than one half by upper tail coverts. *Dubusia taeniata* is almost the only species in which the color pattern, even faintly resembles *Tephrophilus*. Both have black chin, throat and face masks. In both the mask is separated from crown and nape by a narrow border of different color. Both have lesser primary coverts light blue and greater coverts edged with blue. Both have a large portion of underparts yellow and thighs and under tail-coverts of a different color, but here the resemblances cease, *taeniata* having rump unicolor with back, a buff band separating the black throat from the yellow underparts and middle of back differently colored from crown and nape.

The dissimilarities are equally numerous. *Dubusia* has a proportionately more slender and shallow bill, as proved by the fact that both height and width of bill at base are considerably less than length of maxilla from nostril, whereas in *Tephrophilus* they are more; height of bill at center of nostrils is considerably less than

distance from nostril to notch on the mandible, whereas, in *Tephrophilus* it is more; maxilla very shallow as compared with *Tephrophilus;* culmen convex instead of straight for its basal half; maxilla fits tightly over mandible instead of being spacious; width of rami at base is considerably less, instead of more, than length of maxilla from nostril; sides of mandible at base not thickened and not forming heavy ridge; commissure broadly convex instead of strongly sinuate; mandible the same color as maxilla, instead of different; tarsus much shorter and weaker proportionately; feet and toes weaker; lateral claws extend considerably beyond, instead of short of, base of middle claw; sexes do not differ as in *Tephrophilus.*

Thraupis darwini, although differing from *Tephrophilus* in a few more ways than *Dubusia,* resembles *Tephrophilus* in almost exactly those items, where *Dubusia* differs, namely: Width of bill at base slightly more than maxilla from nostril; height of bill at nostril slightly more than distance from nostril to notch; maxilla rather deep; tomia of maxilla dilated at base and maxilla spacious; rami of mandible swollen at lateral bases forming deep pits behind; width of rami at base the same as maxilla from nostril; outline of side of mandible in vertical profile sinuate; commissure strongly sinuate; mandible differently colored from maxilla; and sexes dissimilar. In short, more affinities exist between the bill of *Thraupis* and *Tephrophilus,* but there are far more dissimilarities between the wings, tails, tarsus and feet. For instance, the primary formula is totally different (ninth primary being much the shortest and first longer than sixth, creating a pointed wing); tail square with narrow rectrices; tarsus comparatively short and slender, feet and toes comparatively much weaker.

It would seem well, therefore, to place *Tephrophilus* tentatively between *Dubusia* and *Thraupis,* at least until further studies, including an examination of the internal structure, confirm or disprove the relationship. This position has the further advantage that it places *Tephrophilus* reasonably close to *Ramphocelus* whose peculiar thickened rami and bright color of entire mandible seems to be faintly forecast by the condition of the lower bill of *Tephrophilus.* In closing I should remark that *Iridosornis* possesses just as many affinities with *Tephrophilus* as *Dubusia* and as many dissimilarities. Although a considerably smaller bird the proportions



OUTLET FROM LABYRINTH TO BASE OF MT. SANGAY. TEPHROPHILUS WETMOREI SECURED NEAR THIS SPOT IN SHRUBS SIMILAR TO THOSE IN CENTER OF PHOTOGRAPH.

of its maxilla and mandible are very close to *Tephrophilus*. Unless its internal structure proves otherwise, it would seem to be a misfit in its generally accepted position between *Tangara* and *Poecilothraupis*.

For many courtesies graciously extended in the study of this bird, I am indebted to Dr. Frank M. Chapman and to Mr. John T. Zimmer of the American Museum of Natural History. To Dr. Herbert Friedmann of the U. S. National Museum my acknowledgments are also gratefully given for his assistance. I am particularly indebted to Dr. Alexander Wetmore for direct advice and help. At the American Museum comparisons were made with the entire first series, which covers practically every genus of the Thraupidae. In addition checking measurements were made of many individuals of the second series, which represent genera having the closest affinities with the new genus. The Thraupidae are well represented in my own collection, which contains large series of some ninety species from Ecuador alone, with which, as would be expected, the new tanager finds its greatest similarities. In spite, therefore, of study of various species of many genera, it is realized that no convincing solution is possible at the present time; any suggestions must be considered as merely tentative. Fortunately a stomach with contents, as well as a partial skeleton, were preserved, and these will have to be studied by competent students before anything approaching finality can be achieved.

California Institute of Technology,
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A NESTING OF THE SLATY ANTSHRIKE (*THAMNOPHILUS PUNCTATUS*) ON BARRO COLORADO ISLAND.[1]

BY ALEXANDER F. SKUTCH.

Plate III.

TWENTY-ONE species of Antbirds (Formicariidae) occur within the limits of the Panama Canal Zone. They are gifted neither with bright plumage nor with beautiful songs, but despite these deficiencies many are birds of distinct personality whose acquaintance is well worth the pains to cultivate it—and these are not inconsiderable, for most are shy and retiring inhabitants of the heavy forest or the dense, impenetrable second growth thickets. Clad in black and white, or shades of brown, olive or gray, a number of species are further ornamented by areas of brightly colored bare skin on the cheeks or crown. Although they are not true song birds, the calls of some are pleasing and melodious, and range in character from the "cosy little trill" of the Tyrannine Antbird (*Cercomacra tyrannina*) to the full, mellow triple whistle of the Panama Antthrush (*Formicarius analis*). In habits they are equally diverse, for some, like the Antwren (*Microrhopias quixensis*) live among the trees and have the mannerisms of an active Warbler, while at the other extreme we have the Antthrush just mentioned, which is entirely terrestrial, and treads with the dainty gait of a Rail the dry leaves of the forest floor, with whose color it blends remarkably well.

Our bird is intermediate between these two extreme types in its mode of feeding and the level of the forest at which it prefers to live. The Slaty Antshrike (*Thamnophilus punctatus atrinuchus* Salvin and Godman) is happy in its generic name, for it loves the low bushes which grow beneath the lofty canopy of the lighter forests. Scarcely larger than a Chipping Sparrow, the male is blackish slate-color above and grayish slate below, the secondaries margined and the rectrices tipped with white (Plate III, fig. 2). His mate is olive brown above and buffy olive below, with chestnut

[1] Studies of the life histories of tropical American birds, No. 3.

crown and tail. On Barro Colorado Island in Gatun Lake it is a numerous species, and frequents the lower strata of the forest, where it seeks its insect food among the foliage of the undergrowth and in the depths of the dense vine tangles. I have not seen it feeding on the ground, and apparently it never associates in the mixed assemblages which follow the army ants and prey upon the cockroaches, spiders and other creatures which are driven from their concealment beneath the litter of the forest floor by the relentless hordes. Two other Antbirds, *Hylophylax nævioides* and *Gymnopithys bicolor* generally form the nucleus of these heterogeneous companies, and are joined by the Ant Tanager (*Eucometis cristata*) and sometimes by the Brown Dendrocincla (*D. lafresnayi*) or the Barred Woodhewer (*Dendrocolaptes sancti-thomæ*).

While others of the Formicariidae utter very pleasing little songs, I never heard from the Slaty Antshrike any note which might be called melodious. The usual call (or song?) is a long wooden roll becoming faster and slightly higher in pitch toward the end, terminating in an indescribably characteristic *wank*. Although the preliminary roll might possible be confused with the calls of some other birds, the *wank* on the end serves to distinguish it from anything else of its kind. This is the call I have heard most frequently from the birds when not concerned about their nests, while another, in one sense just the opposite, for it begins with the staccato *wank* and ends with the *churr*, was used by the bird at its nest to call its absent mate. Sometimes, too, the *churr* is uttered alone, and the bird gives voice to shorter phrases or even monosyllables to express displeasure, anger or fear when its nest appears to be endangered. The precise shade of meaning of each of these varied utterances I cannot pretend to comprehend.

While I was not fortunate enough to witness the construction of the nest of this species, a fragmentary observation leads me to believe that both sexes share equally in the labor. On December 22, I found a nest near the laboratory which was near completion. I got into an umbrella blind as quickly as possible, in time to see both birds come a few times with materials and put on a few finishing touches. No eggs were laid by January 5, but when I next examined the nest on the thirteenth it contained two. This nest, situated in the horizontal fork of a sapling at a height of nine

feet, was constructed of black fibres and rootlets so loosely interwoven that one could discern the white eggs through the open meshwork of the bottom. The drapery of moss was complete on one side only, with a few scattered tufts about the rest of the circumference; not nearly so carefully constructed as that shown in Plate III. Some unknown mishap befell the eggs after incubation had been in progress a few days.

The nest to which I devoted most attention was found on January 7, 1931, in the underbrush of the moderately heavy forest a few paces from the Allison Armour Trail between the 600 and 700 meter marks. The little, moss-covered cup was suspended in the fork of a slender, horizontal branch of a young sapling, about eight feet above the ground. As I approached from behind I could see only the white-tipped, black tail feathers of the sitting male protruding above the rim. He sat very quietly and appeared unaware of my advance until I stood beneath and began to draw down the branch, when he flew to a perch hard by and summoned his mate with a staccato *wank* ending with a long, dry roll. As he delivered the roll his throat vibrated and his tail wagged rapidly up and down, so fully did he throw himself into his utterance. This he repeated over and over again until at length his olive-brown partner emerged from the undergrowth.

While the united pair fluttered around and protested my actions, I examined and measured their nest and its contents. In its form, size and position it strongly resembled that of the Red-eyed Vireo; in material and appearance it was very different. The deep cup was composed entirely of fine black fibres and rootlets, rather loosely woven, and attached by its rim to the horizontal fork. The outside was completely covered with moss loosely attached and dangling in short pendents. Internally it measured 2½ by 2¼ inches in diameter by 2⅜ inches in depth. The two oblong-ovate eggs it contained were white heavily spotted with umber, especially in a crown on the larger end.[1] (Plate III, fig 1).

My notes completed, I retired behind one of the plank-buttress

[1] These measured 0.97 x 0.66 and 1.00 x 0.66 inches. Those mentioned above were 0.94 x 0.66 and 0.95 x 0.64 inches. A clutch of two is also recorded by Carriker from Costa Rica (Ann. Carnegie Museum Vol. 6 pp. 314–915. 1910), and a nest with one egg by Stone from Panama (Proc. Acad. Nat. Sci. Philadelphia Vol. 70, pp. 239–280. 1918).

roots of a great tree which stood a few paces off, and stayed to observe which bird would occupy the nest. I had not long to wait, for the female soon flew up to it, repeated several times a call similar to her mate's, and settled down to incubate. I remained in my imperfect concealment for the next three hours and made the following record:

1:01 P. M. Female begins to incubate.
1:35 She leaves nest.
2:07 Male enters nest after calling many minutes.
2:50 He leaves nest with a sudden jump, silently. Female appears at once.
3:00 She enters nest silently.
4:00 I steal away while the female still covers.

The rather short turns upon the nest are to be attributed to the excitement into which the birds were thrown by my sudden intrusion. The following morning I arrived at the nest at 8:09 and took my place silently behind a plank-buttress of the big tree, without disturbing the male, who was then incubating. He continued to sit quietly until 10:20, when he departed in response to a call of another of his kind, presumably his mate, off in the distance. In five minutes the female arrived in the nesting tree, called many times, and was answered by her mate hidden in the forest. Finally, at 10:37, she covered the eggs and remained sitting until 11:19, when she flew off into the forest and I also departed.

It has been my experience that small birds of the deep tropical forest are as a rule more timid of the presence of man near their nests than are birds which breed in clearings and the vicinity of houses, but there are doubtless many exceptions and the Slaty Antshrike is decidedly one of them. Both male and female permitted a close approach while they were incubating, or while, perched in the vicinity of the nest, they protested my intrusion, but the male always proved himself the braver. To be better concealed while I watched and photographed the nest, I constructeed as a blind a little lean-to of palm fronds between the buttresses of the tree already mentioned. The male retreated hardly more than six feet while I lashed a tripod atop a step-ladder, mounted the camera, and focussed it on the nest. When everything was in readiness, I withdrew to the shelter of the blind, from which a

thread led to the release of the shutter, and almost immediately he came up and resumed incubation scarcely a yard from the great, unfamiliar, glassy eye of the camera. Each time I changed the film one or the other bird returned promptly to cover the eggs, and in an hour and a quarter I was able to secure five exposures, three of the male and two of his mate. On returning to their nest, the birds always alighted well down on the branch to which it was attached, approached it by a series of rapid sideways hops, and invariably entered facing outward from the tree, although rarely they turned around after an interval of sitting.

An experience with the Groove-billed Ani had taught me that it is not always safe to assume that the female spends the night on the nest. Which of the pair incubates at night is a point which should be determined for every species (or at least every family) by direct observation. Accordingly, I went one evening to witness the close of the day at the Antshrikes' nest. I arrived at five and frightened the male from his eggs in order to determine whether they were near the point of hatching, which was not the case. Then I retired to the tent of palm leaves, and in a few minutes the female came up silently and settled on the nest, while her mate disappeared into the forest. As the last rays of the declining sun slanted through the forest aisles, a company of Plain-colored Parrots began their stentorian screeching in the tree-tops. Their uncouth utterances died away as the dusk deepened where I sat at the bottom of the forest, but a congregation of Swainson's Toucans were singing their vespers in the still-lighted summits of the trees, in unmelodious voices high and shrill for such large birds. A small voice, unfamiliar to me, rang out in a clear, sweet song not far off in the undergrowth. As the gloom deepened a Chestnut-headed Tinamou sounded its exquisitely modulated flute notes, sounding weirdly melancholy from the unseen distances of the woodland, as though, straying lone and forlorn in the forest, it uttered an agonized protest against the hidden fears and lurking dangers which succeed the sinking of the sun. Closer at hand sounded the tinkling call of a little tree frog, like one picking thrice a fine silver wire held very taut. Still the little Antshrike sat motionless in her mossy nest.

By a quarter to seven objects had become vague and unreal on

the forest floor. I crept up stealthily beneath the nest for a last dim look at the bird sitting alone in the dusk. As I turned to leave, the sharp crackling of a dry stick under foot startled her, and she flew to a near-by limb. A wave of remorse and repentance surged over me; I feared the eggs would chill during the night and all our labors—theirs to rear a brood, mine to watch—had been brought to a premature conclusion by my blundering. But I retreated a little way and stood in anxious silence, and in a few minutes the brave little bird came hopping back to the nest she could scarcely see. Then I stole quietly away, and left her alone to her shrine.

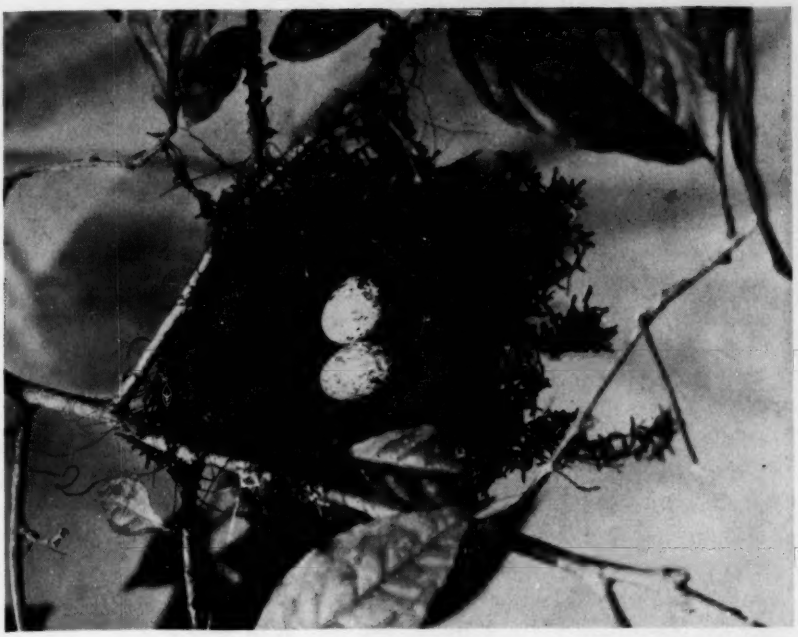
On my next visit to the nest I came with a companion. The male was covering and remained sitting quietly until I touched him gently on the breast with a finger. He retreated to a perch only a foot away and remained motionless and silent, only several times spreading and closing his black, white-tipped tail, while I felt inside the nest and encountered two nestlings. As I took the dark-skinned, blind and absolutely naked creatures in my hand to see them the better, he called twice or thrice to his mate, but made no hostile demonstration. He returned to brood them almost as soon as they were replaced, ignoring the close presence of the two of us.

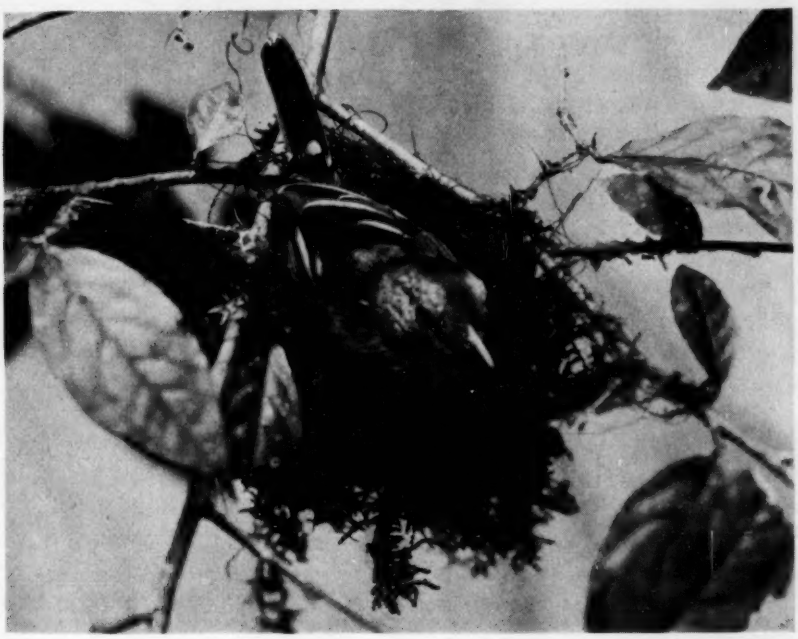
At a subsequent visit four days later, I found the female perched motionless beside the nest, steadfastly regarding her offspring in their pendent cup. She permitted me to approach to within a yard of her, then fluttered to the ground and, grovelling and beating her spread wings against the dead leaves, appeared to struggle painfully away from the nest. I fell into the spirit of her game and followed about twenty feet, when she suddenly recovered, flew into the nearest bush, and began the *wank r-r-r-r-r* which drew her mate at once. He arrived uttering his nasal, churring scold, and ventured much closer than she dared. When I went back to the nest to have a look at the nestlings, he perched on a twig not a foot away in an attitude of defense—or perhaps better offence, to judge from his subsequent behavior. Wings were spread and fluttering, tail expanded into a black fan tipped with white, the blackish crown feathers erect and bristling, and the feathers of the center of the back turned *outward*, revealing their white bases (which on ordinary occasions are completely overlaid and concealed by the slaty-black tips) in a broad and conspicuous snowy patch. As I tried to

lift one of the youngsters,—now on their fifth day bristling with black pin feathers and their eyes just opening—from the nest, the father, all poised like an Indian in his panoply of war, launched forward and bit the tip of a finger, I suppose with all the energy of anguished paternal love, yet so gently that I hardly felt it. Twice he repeated those swift attacks with equally swift retreats, before he retired to a little greater distance. I shall always cherish the memory of those ineffectual nips. It was about as close as one can come to a wild, free, alert creature of the forest without suffering bodily harm.

Meanwhile the mother, who dared not approach nearly so close as her heroic mate, perched in a neighboring bush, continued her nervous rattle, and revealed a white patch in the middle of her olive-brown back which one never suspected was there. The significance of the concealed area of white on the backs of these birds is a question which is far beyond the scope of the present paper. We should know first of all the answer to whether it is revealed in courtship, and even should this prove to be the case, as I surmise it is, its consideration would involve the review of all the controversial subject of sexual selection. It is far easier to remark its similarity to the concealed orange or scarlet crown patch of the related Tyrannidae, which also is displayed in the angry or aggressive moods of its wearers. It seems unlikely that any dangerous enemy would be frightened by this sudden display of either a red area on the crown or a white one on the back.

Although the parents were sometimes out of sight when I came up to the nest, they were seldom out of hearing, for the squeaks of distress of the nestlings on being handled brought them at once to investigate and scold; or if one adult happened to be present alone, its call almost always obtained prompt response from the absent mate. The male's attacks upon my fingers were repeated on several occasions when I examined the progress of his nestlings, and once his bites actually hurt a very little. Not always consistent in attacking, at times he was content to flutter around at a little distance and make merely vocal protests at my intrusion. The female never made a direct attack, but while her mate fought sometimes tried the "broken wing" lure on the ground—a ruse in which I never saw the male indulge. The divergent parts played by the





Photos by A. F. Skutch

UPPER: NEST AND EGGS OF SLATY ANTSHRIKE.
LOWER: MALE ON NEST.
BARRO COLORADO ISLAND, CANAL ZONE, JANUARY 12, 1931.

two when the nest was endangered—he to drive, she to lure away the enemy—were not a little interesting, especially since in all the other duties of the nest they seemed to share equally.

The nestlings were fed by both parents at fairly infrequent intervals, but then with rather sizable portions. On the fifth and sixth days of the nestlings' lives I spent a total of seven hours and 20 minutes in the blind to observe feeding, and in this period the parents made altogether 18 visits to the nest with food. Assuming that both of the young received equal shares, each was fed on an average of once every forty-nine minutes. The food, so far as I could observe, was entirely animal; I identified a spider, two long white grubs, a cricket and a cockroach, and several other insects of undetermined kinds. It is of interest that during the time I watched the male brought food eleven times to his mate's seven. During the period of these observations, between 8 A. M. and 4:30 P. M., the male alone was seen to brood the nestlings, which he did on five separate occasions for periods of from one to ninety-two minutes. The weather was warm and dry, nor were the nestlings exposed to the sun, so they needed little brooding. If the male were covering when his mate arrived with food, he flew off as she advanced toward the nest by sideward hops up the supporting branch, leaving the nestlings uncovered for her to feed. Both parents cooperated in the sanitation of the nest, flying out of sight with the white packages voided by their offspring.

Both parents spent much time standing motionless in the fork of the twig above the nest, the head often cocked sideways, regarding the nestlings with one eye and fixed attention. The attitude was that we have learned from the work of Herrick to call "inspection," but I think that with them it was more than inspection, and rather, at times at least, a matter of being "on guard." This view is strengthened by a characteristic incident. After the lively encounter already described, when I was first attacked by the male, I had no sooner replaced the nestlings and retired a few paces than he took his position above them and stood like a sentinel, while I added fresh palm fronds to the blind to cover the gaps left by the curling pinnae of the withering leaves, which no longer concealed me. Even the noise of cutting down a small sapling which stood in front of the blind, to obtain a clearer view, did not drive

him from his fixed position. At other times either parent, after delivering the food it had brought, might remain standing on the rim of the nest. It was not a question of shading the nestlings, since only scattered sun flecks penetrated the lofty canopy of the forest, and the wings were never spread as they are when it is necessary to ward off the too-ardent sunbeams. On one occasion the female stood watching her young in this manner a full 18 minutes, but in all other cases which I timed the period spent "on guard" by either parent ranged from two to seven minutes. As they stood thus motionless with lingering gaze fixed upon the helpless nestlings, I should have given much for some intimation of the sentiments which affected them.

At the age of eight days the feathers of the nestlings were bursting from their sheaths, and both gave promise of resembling their mother in coloration. Since my sojourn on the Island had come to an end, I was unable to witness the events of their final days in the nest.

3509 Clark's Lane,
Baltimore, Maryland.

THE HAWK MIGRATION ALONG THE KITTATINNY RIDGE IN PENNSYLVANIA.

BY EARL L. POOLE.

THE Kittatinny Ridge, known locally as the "Blue Ridge," has, since time immemorial, been a favorite highway for the fall migration of certain species of birds of prey, as well as many of our smaller birds. Just why they should elect to follow this ridge is not clear to the writer, since at the locality where the following observations were made it extends from east-northeast to west-southwest, as it does for many miles in either direction. A possible explanation is the fact that, being a practically continuous ridge for many hundreds of miles, it offers a peculiar condition of continuous uplifting air-currents on the windward side in normal weather, thus aiding the typical soaring flight which is characteristic of the Hawks during migration.

My reason for entertaining this view is that during an easterly or southerly breeze the birds pass to the southeast of the crest of the ridge, while during a normal northwesterly breeze the flight follows the northwestern slope of the mountain. This rule appears to be invariable.

The point at which these observations were made is near Eckville, along the boundary line of Berks and Schuylkill Counties, where a mountain road makes accessible a series of rocky prominences from which a clear view may be had of the approaching Hawks as they work their way along the ridge. Similar conditions exist, no doubt, along the entire extent of the ridge, from northern New Jersey to the Southern States.

The scene along the ridge at this point is one of bleak desolation, with a scattering of bleached skeletons of fire-mangled hemlocks and pines projecting above the new growth of the ridge.

The flight of the Hawks over this place during a heavy flight is one of the most impressive sights that one could wish to behold. Singly, or in small scattered groups, they appear from the northeast, soaring in intricate spirals, but all drifting in the same direction. Now and then a low-flying Sharp-shin, probably hoping to surprise

some small prey, skims swiftly past just over the tree-tops, or an Eagle or Osprey, dwarfing even the Red-tails, circles majestically overhead. From far up the ridge they come, now flashing their white undersides toward the sun, and then disappearing for a moment as the darker backs turn sunward, but continually keeping their course along "the endless mountain," as it was known to the Indians.

The sad part of the scene, to the mind of the observer, is the scores of gunners that gather on these promontories, especially on Sundays, during the fall, and slaughter the birds wholesale and indiscriminately as they attempt to run the gauntlet of the blood-thirsty mob.

The lamentable feature of this slaughter is that most of the victims are not even picked up as they fall, but allowed to decompose or serve as food for the foxes, skunks, oppossums, cave-rats, mice and shrews that live in the rocks. Many of them are merely wounded and allowed to die a lingering and miserable death. One could almost condone the killing of the Sharp-shinned and Cooper's Hawks, but during September hundreds of the distinctly beneficial Broad-wings are butchered in the same manner, and in October many Ospreys, Red-tailed and Red-shouldered Hawks and Eagles receive the same treatment.

On certain Sundays in October the writer has seen as many as forty cars parked along the nearby road, with considerably over a hundred gunners stationed at points of vantage along the ridge. On such days the roar of the guns is almost continuous, and resembles a Fourth-of-July celebration on a vast scale. The concensus of opinion among those who have taken part in these "Hawk shoots" over a number of years, is that only a quarter as many fly past this point now as could be seen eight years ago. Little wonder!

From the information that I have been able to gather this condition has existed since 1925, although a few farmers from the immediate neighborhood have been shooting here since about 1915.

The migration commences about August 20 and continues on through November. It starts with a straggling movement of Sharp-shins, Cooper's and Broad-wings, and attains its full momentum by about September 10.

The large flight of Broad-wings occurs around the 20th of Sep-

	Eastern Goshawk (*Astur a. atricapillus*).	Sharp-shinned Hawk (*Accipiter v. velox*).	Cooper's Hawk (*Accipiter cooperi*).	Eastern Red-tailed Hawk (*Buteo b. borealis*).	Broad-winged Hawk (*Buteo p. platypterus*).	Marsh Hawk (*Circus hudsonius*).	Osprey (*Pandion haliaetus carolinensis*).	Duck Hawk (*Falco peregrinus anatum*).	
Sept. 10 (1933)		50	2		6		1		9 A. M. to 12:30 P. M.
Sept. 22 (1932)					"2000"		2		Report of gunners and many specimens
Sept. 25 (1932)		15	1		3	3	1		7:30–11 A. M.
Sept. 27 (1931)		6	1		2				9–11 A. M.
Oct. 1 (1933)		43	3		35	1	4		7–12 A. M.[1]
Oct. 3 (1931)		82	15				2		7:30 A. M.–1 P. M.
Oct. 3 (1933)			A good flight, one Duck Hawk shot[2]					1	
Oct. 5 (1930)		2	2		9			1	8:30 A. M.–12 P. M.[3]
Oct. 7 (1932)		50					"few"	1	Thousands flew over; 50 Sharp-shins and one Duck Hawk killed[4]
Oct. 8 (1933)		40	6	30			1		10–11 A. M.
Oct. 9 (1932)		120				1	50(?)		8 A. M.–4 P. M.[5]
Oct. 11 (1931)		15	5					2	"
Oct. 14 (1930)		5	2	1					8:30 A. M.–2 P. M.
Oct. 14 (1933)		10		14		1			9–11 A. M.
Oct. 16 (1932)		214	8				5		"218 picked up, shot within a week"[6]
Oct. 17 (1927)		18							Shot[6]
Oct. 17 (1931)			"A big flight today, one man shot 53"						(Conv. with gunners).
Oct. 18 (1931)		10							Shot[7]
Oct. 19 (1927)	4								"
Oct. 19 (1932)		6	2	1					10–11:30 o'clock
Oct. 22 (1927)	16	90	11	32			2		"
Oct. 23 (1932)		15		3					
Oct. 25 (1931)		15	3	10		3			"
Oct. 25 (1933)		"Possibly two thousand, mostly Red-tails, with some Sharp-shins"							"
Oct. 27 (1929)		25		20					6–11:30 A. M.

[1] Samuel Wishniesld.
[2] John B. Lutz.
[3] A. Mittower and S. Wishniesld.
[4] Paul Scheil.
[5] R. H. Pough, Bird-Lore, 1932, p. 429.
[6] George M. Sutton, Wilson Bulletin, 1927, p. 84.
[7] Shot by A. Smith.

tember, and the main flights of the other species depend to a certain extent on the weather conditions; a heavy flight being almost certain to occur during a sudden drop in temperature, accompanied by a strong northwest breeze.

The flight is usually heaviest from 9 until 11 o'clock in the morning, then there is a lull during the noon hours, and a resumption after 2 o'clock, lasting until about 4:30. From the state of the stomach contents of many of the Hawks shot, it is apparent that they feed mainly in the early morning, although food is doubtless picked up as opportunity offers during the flight. This is especially true of the Sharp-shins.

A summary of the actual observations obtained from reliable sources, along with notes made by the writer during some eighteen visits to the region, will present a composite picture (p. 19) of the nature of this migration during its different stages.

In addition a single Golden Eagle (*Aquila chrysaëtos canadensis*) was shot by an unknown gunner on November 10, 1931, and seized by the game protector; a Bald Eagle (*Haliaeetus l. leucocephalus*) was seen on September 10, 1933, and another on October 1 of the same year; a Red-shouldered Hawk (*Buteo l. lineatus*) on October 14, 1930, and two on October 25, 1931; single Pigeon Hawks (*Falco c. columbarius*) on October 3, 1931, October 5, 1930, October 18 and 25, 1931, and single Sparrow Hawks (*Falco s. sparverius*) on September 27, 1931, October 8, 1933, October 14, 1930 and October 27, 1929.

Reading Public Museum,
Reading Pa.

BIRD NOTES FROM WHITEFISH POINT, MICHIGAN.

BY W. BRYANT TYRRELL.

WHITEFISH POINT is located in Chippewa County, in the upper peninsula of Michigan. It is a point of land bounded on the east by Whitefish Bay and on the north by Lake Superior, with the hazy blue hills of the Canadian shore, about eighteen miles away, visible on clear days.

My attention was first called to Whitefish Point as a migration route by a reproduction of a photograph in one of the Detroit Sunday papers, in the Spring of 1927. The photograph was of Curren Hawkins standing beside a waist-high pile of Hawks which he had shot in one day for the bounty of fifty cents per head. That bounty has since been recalled.

A glance at the map will show why Whitefish Point is a natural migration route. The birds coming north through the lower peninsula of Michigan concentrate at the Straits of Mackinac. From there they continue north across the fifty miles or more of the northern peninsula, follow the shore of Whitefish Bay to the Point, cross the eighteen miles of Lake Superior to the Canadian shore, and then on to their nesting grounds further north.

To reach Whitefish Point one can go either by rail or automobile to Eckerman; if by rail, the mail truck will take you to the Point.

When I arrived at Eckerman I was surprised to see a flock of Evening Grosbeaks, (*Hesperiphona v. vespertina*) feeding on the ground in front of one of the stores. On inquiring, I was told that the birds are there the entire year and that there are often as many as eighty at one time. The parent birds are said to often bring their young, indicating that they must nest in the region. The finding of five nests at Whitefish Point is reported by J. S. Ligon in 'The Auk,' 1923, pp. 314–316. The people about the store are in the habit of tossing out to these birds coffee grounds and, what seemed strange to me, coarse granular salt. I questioned several persons, but they all said it was quite true and at their suggestion I myself threw out a handful of salt. The birds came and appeared to be eating it. I did not collect any of the birds to prove by chemical

examination that they actually ate salt but the people were positive that the birds were attracted more by the salt than by the coffee grounds.

The distance from Eckerman to Whitefish Point is only 37 miles. For the first seventeen miles, to the town of Emerson, the road is fairly good, though narrow and winding, and runs for the most part through virgin hardwood forest, where may be found the home of the Northern Pileated Woodpecker (*Ceophloeus pileatus abieticola*). Frequently a doe or a fawn is seen feeding along the road and at the approach of the car will stop alert, head up, ears thrown forward, with one fore foot raised ready to bound off into the dim depths of the forest. From Emerson to Whitefish Point the road is one of the worst I have ever travelled. It is merely two zigzag, bumpy, sandy ruts, over which the car bumps and stalls in the soft sand. Most of the country has been logged and some of it has recently been ravaged by fire. What a desolate place this burnt over area is, with its charred stumps and fallen logs standing out black against the sparse green vegetation on the sandy ground. At Sheldrake, about two-thirds of the way between Emerson and Whitefish Point, the road crosses the Sheldrake River, which winds off to the west through a series of sandy ridges with swamps between, where Wilson's Snipe (*Capella delicata*) nests, as well as the Sandhill Crane (*Grus canadensis tabida*) a bird not as rare as some people seem to think—we saw six in one afternoon.

The town of Whitefish Point is about two miles south of the actual point and is a most peculiar place, consisting of about twenty houses and a few stores, most of which are spread out through the woods along two or three miles of a winding sand road which parallels the Lake Superior shore. The people are mostly fishermen, and a number of the houses are set in little clearings and often as far as half a mile from the nearest neighbor.

The Point itself is a sand spit running out into the Lake, on which Herring Gulls (*Larus argentatus smithsonianus*) can usually be seen. To the south the shore of Whitefish Bay is of fine sand, on which shore-birds throng. There as late as June 5, 1930, flocks of Sanderlings (*Crocethia alba*), Least Sandpipers (*Pisobia minutilla*), Ruddy Turnstones, (*Arenaria interpres morinella*), Black-bellied

Plover (*Squatarola squatarola*), and Knots (*Calidris canutus rufus*) were seen, with a few Spotted Sandpipers (*Actitis macularia*) and many Killdeers (*Oxyechus v. vociferus*).

To the west, along the Lake Superior shore, which is mostly gravel from pebbles to stones a few inches in diameter, few birds are to be found. There I saw only a few Least and Spotted Sandpipers. Back of the Point are the lighthouse and the Coast Guard station and beyond these along either shore, are a few sand dunes, the height of which does not exceed sixty feet.

Extending south, back of the dunes, along the Lake Superior shore, is a wooded region composed mostly of Jack pine, broken by small swampy areas. In this wooded region the birds congregate by the thousands before migrating north across Lake Superior.

It was in these Jack pines that I saw hundreds—if not thousands—of Blue Jays (*Cyanocitta c. cristata*) on the morning of June 5, 1930. It was a dull cloudy morning with a chilly northwest wind blowing off Lake Superior. When we arrived at the Point, soon after daylight, the birds, mostly Blue Jays, though there were a few Evening Grosbeaks (*Hesperiphona v. vespertina*), White-winged Crossbills (*Loxia leucoptera*), Cedar Waxwings (*Bombycilla cedrorum*), Sparrows and Warblers; were exceedingly restless, apparently waiting to go north but not caring to venture across in a northwest wind. The Blue Jays made very little noise but were constantly milling around, usually in flocks of varying size. A flock would form and fly off towards the lighthouse, circling and rising all the time until when they were over the lighthouse they were several hundred feet high. There they would continue to circle and then would come quietly but quickly back into the pines, only to repeat the same procedure in a short while. By the middle of the morning they had broken up into small flocks and gone off into the woods for the day to feed, congregating again in the evening. Each morning the same maneuvers took place until the morning of June 11 when the wind changed to the northeast and the weather became much warmer. On this date the birds were again circling though flying so high that at times they were almost out of sight. I did not see a single flock actually start and fly off across the lake, but on the morning of the 12th there was hardly a bird to be found in the Jack pines.

The most spectacular migrants at Whitefish Point are Hawks. It has been reported that at times there have been hundreds and even thousands of these beautiful and majestic birds in view at one time—a thrilling sight. I have never seen the Hawk migration at its height, but the information which I have about it is from one who has seen it for years, who is a keen observer of nature and whose word and observations are to be trusted. The man of whom I speak is Mr. Curren Hawkins. I have had a good many enjoyable field trips with him and he has often talked of his experiences while collecting Hawks for the bounty.

Mrs. Hawkins writes as follows:

"The flight starts in the spring, about the last of April, when the warm south wind blows. Then come the big Hawks by thousands, the Rough-legs and Red-tails first. Some days they fly low in heavy wind while at other times they are high and circle like swarms of bees in the air. The Broad-wings are also among the first to fly, then the Cooper's, Duck Hawks, Swainson's and Red-shouldered straggle along with the rest, though not in great numbers. The last to fly are the Sharp-shinned and a few Goshawks, but the Sharp-shinned come by thousands. Great Blue Herons and Night Herons also come in the Hawk flight, and to wind up the procession are the Blue Jays and the Canada Jays, which also come by thousands before the Sharp-shinned flight is over."

As Mrs. Hawkins wrote, the smaller and more predacious Hawks arrive last, following the hordes of small birds on which they prey. With a change in the weather of several days duration, and especially with a chilly northwest wind, the Hawks working up from the south congregate in the Jack pines near the end of the Point. There they wait for a return of favorable weather with a northeast wind, for they seldom cross with other than a head wind. When such a change comes they sail out of the pines one or two at a time and, flying low over the tree tops and dunes, circle off towards the Point and on across Lake Superior. Mr. Hawkins tells me that he has, on favorable days, stood practically in one spot and killed an unbelievable number. His record is over 300 Sharp-shins in one day. Hawks that have been taken at the Point include Marsh Hawk (*Circus hudsonius*); Sharp-shinned Hawk (*Accipiter v. velox*); Cooper's Hawk (*Accipiter cooperi*); Goshawk (*Astur a.*

atricapillus); Red-tailed Hawk (*Buteo b. borealis*); Red-shouldered Hawk (*Buteo l. lineatus*); Swainson's Hawk (*Buteo swainsoni*); Broad-winged Hawk (*Buteo p. platypterus*); Rough-legged Hawk (*Buteo lagopus s. johannis*); Duck Hawk (*Falco peregrinus anatun*); Sparrow Hawk (*Falco s. sparverius*); and the Osprey (*Pandion haliaetus carolinensis*). The Bald Eagle (*Haliaeetus leucocephalus alascanus*) has also been seen.

About noon on June 11, 1930, a beautiful clear warm day with a gentle northeast wind blowing, while Hawkins and I were getting ready to eat lunch on the banks of the Sheldrake River, some seven miles southwest of the Point, we saw what were very likely the last stragglers of the Hawk migration. We were at a bend in the Sheldrake River where bird life was more abundant than anywhere I had been, except at the Point itself. Circling high above us were six Hawks, one Rough-legged, one Duck Hawk and four Broad-wings. We watched them as they continued to circle until they were lost to view in the northeast.

Another interesting bird to be seen on Lake Superior in the spring and which is found nesting on most of the inland lakes is the Common Loon (*Gavia i. immer*). Hundreds of these birds are destroyed annually by the fishermen, though in a good many cases unintentionally. The Loons steal the herring that are used as bait on the set lines and usually get the hook lodged, not in the aperture of bill or throat but externally through both nostrils, piercing the septum. I saw three that were caught in this way. Thus caught they soon drown though not until they have managed to tangle up a good many feet of line. I collected one that had about eighty feet of line wound around its leg.

On one occasion we watched a pair of Loons from a bluff above the water. The wing of one of them had been injured for when he rose with his tail resting on the water and fanned his wings, as they often do, we could see that part of one was gone. As we watched them we saw a dark area moving in the water—a school of fish. Soon the birds found the fish and kept diving and pursuing them until the school disappeared.

Another time I was walking along the shore and did not notice a pair of Loons three or four hundred feet off shore. I stopped to wipe my glasses with a white handkerchief and in the operation

more or less waived it. When I put the glasses on I noticed the Loons swimming toward me, I stood still, waving the handkerchief and watched them, to see how close they would come. They came slowly to within about one hundred feet of me, decided that I would do them no harm, and went about their feeding. They would swim along with their heads under water for a way, raise up, look around, and then swim on again. Back and forth they went, sometimes diving and coming up some distance away, but always more or less together. They were no doubt a mated pair. When I moved, they both dived and came up several hundred yards away and widely separated. They soon swam together and went off down the lake, paying no more attention to the handkerchief I continued to wave.

There are many other interesting birds at Whitefish Point, such as the Short-billed Marsh Wren (*Cistothorus stellaris*) which I believe nests there though we were unable to locate a nest. An immature Raven (*Corvus corax principalis*) was taken on July 9, 1929. The beautiful song of the Hermit Thrush (*Hylocichla guttata faxoni*) was heard every day and a nest with three eggs was found under the low spreading branches of a small spruce. More than one hundred Snowy Owls (*Nyctea nyctea*) were reported seen in one day in the spring of 1931 by Mr. Hawkins while visiting his traps.

Thus you may readily see why I am always looking forward to the next visit to Whitefish Point.

Catonsville, Md.

Photos by T. W. Burgess.

UPPER: SEMIPALMATED PLOVER PERFORMING WOUNDED BIRD ACT.
LOWER: RETURNING TO NEST "B".

SOME OBSERVATIONS ON THE SEMIPALMATED PLOVER (*CHARADRIUS SEMIPALMATUS*) AT ST. MARY'S ISLANDS, PROVINCE OF QUEBEC, CANADA.

BY E. D. W. SPINGARN.

Plate IV.

THIS paper is based upon studies of the Semipalmated Plover made while at St. Mary's Islands from June 24 to July 10, 1931.

These Islands are in the Gulf of the St. Lawrence, about fourteen miles from Harrington Harbour, Saguenay County, P. Q., and somewhat less from the nearest mainland. The longitude of the center of the group is 59.38 W. and the latitude 50.17 N. The St. Mary's Archipelago consists of five small islands: East, Middle and West St. Mary's Islands, Cliff and Yankee Islands. Each of the first three islands is about a mile in length, forming a chain about three miles long, for the channels separating them are exceedingly narrow. The other two islands are more remote.

The islands, although extremely rocky, are by no means void of vegetation. The terrain which is soft and mossy is covered in many places by dwarfed willows, hemlocks, and other trees and shrubs. The trees have been stunted by the terrific winds so that they grow little higher than the surface of the ground. In hollows and protected places, however, they may attain a height of several feet.

It is a pleasure to acknowledge my indebtedness to Dr. Harrison F. Lewis, during my studies of Semipalmated Plovers' nests on these islands, for his coöperation and many courtesies. My thanks are also due to Charles, Harold and Hiram Osborne, of St. Mary's Islands, who assisted me in finding nests, and to Dr. Alfred O. Gross, of Bowdoin College, under whose supervision the work was carried on, for his help and suggestions.

The Semipalmated Plover (*Charadrius semipalmatus*) differs from the European Ringed Plover (*Charadrius hiaticula*) in that its front toes are partly webbed. Otherwise the two species are barely distinguishable from one another.

The range of the species *semipalmatus* includes North and South America. It has been found breeding from Melville Island, Wellington Channel, Cumberland Sound, Davis Inlet and western Greenland south to the mouth of the Yukon, the valley of the upper Yukon, southern Yukon territory, east-central Manitoba, the southern end of James Bay, the Gulf of St. Lawrence, New Brunswick and Nova Scotia. It winters from central California, Louisiana, South Carolina and Bermuda to the Galapagos Islands, Chile and Patagonia. It is casual in eastern Siberia and accidental in England.

Non-breeding Semipalmated Plovers remain throughout the summer in southern latitudes, having been taken or observed south to Venezuela, Galapagos Islands, Costa Rica, the West Indies and Jalisco, Mexico, while they are often fairly common on the coasts of the United States as well as in the interior (Ohio and Michigan).[1]

According to Mr. Charles Osborne, a keen and trustworthy observer, the Semipalmated Plover is a rather common transient in the St. Mary's Islands during the seasons of migration. Although it usually arrives from the south about June 1, he saw it for the first time in 1931 on May 16. In the autumn he has seen it as late as the second week in October. At these periods of the year it is not infrequent that one sees flocks ranging from twenty to sixty individuals, although on the New Jersey coast Mr. Charles A. Urner (Auk, vol. 47, 1930, p. 426) has seen as many as 2000 in a day.

In contrast to the by no means insignificant numbers which pass through as transients, comparatively few Semipalmated Plovers remain in the islands during the summer months. In 1930 Dr. Harrison Lewis found but four pairs nesting: two pairs on Middle St. Mary's Island and two pairs on West St. Mary's Island. In 1931 two pairs were found once more on West St. Mary's Island.

There have been many interpretations of the common call note of the Semipalmated Plover. Mr. Ralph Hoffman (Guide to Birds New England and E. New York, 1904) describes it as "a simple, sweet, plaintive call, *chee-wee.*" Mr. J. T. Nichols (Auk, vol. 37, 1920, p. 537) writes: "The flight note . . . is a short,

[1] Life Histories of North American Shore Birds (Part II), p. 225; Bulletin 146, U. S. Nat. Museum; 1929.

whistled *tyoo-eep*. The birds have a variety of lesser notes which are not so often heard, and most frequently in Spring. A little company of probably wintering birds (in Florida toward the end of March) called *keup-keup* as they were flushed and flew a few yards to alight again. The flight note is sometimes replaced by rougher cackling notes in small flocks on the wing." Messrs. J. T. Nichols and Francis Harper (Auk, vol. 33, 1916, pp. 252–4) make the following observation: "The Ringneck's ordinary flight note or call note . . . *tyoo-eep* . . . is given repeatedly by birds on the wing, but those on the ground are generally silent when not disturbed. . . . Another and rougher note seems to signify excitement or suspicion; it is usually uttered singly, but sometimes a bird standing on the ground will give a rapid descendo series of these questioning notes, *keup-keup-keup-keup*, etc., the last few almost running together."

One of the most familiar and characteristic calls of the Semipalmated Plovers on West St. Mary's Island is a plaintive, piteous *che-wit*. It is frequently uttered when the bird is alarmed or suspicious, sometimes being repeated as often as every four or five seconds, until the danger has subsided. I have also heard them, when frightened off their nest, utter a shrill strident, *chip*, *cheep*, or *peep*. Although I have heard both calls given on the wing, they are apparently uttered far more often by birds on the ground. Perhaps the most interesting note, however, is a nervous *chup* occasionally uttered singly, but more frequently forming a rapid, staccato series of sounds: *chup-chup-chup-chup-e-rurr!* Since all these various calls seem to play an important part in the relationship between the adult birds during the period of incubation, I shall discuss them more fully in that connection.

There is considerable variation in both nesting site and the nest of the Semipalmated Plover, as described in Bent's 'Life Histories of North American Shore Birds' (Part 2) p. 218; 1929, but as there stated "a mere depression in the sand without lining or with only a few bits of shells or grass, generally constitutes the nest of this species."

The two nests found on West St. Mary's Island in June 1931 differed from one another in many respects.

In the first place, nest "A" was a slight depression in an open

tundra at the foot of a small hill, 140 yards from the shore of the Gulf. Surrounded by mosses, bunchberry, and young birch trees, it was lined with dried leaves and bits of old moss.

On the other hand, nest "B" was a depression in a small island of moss growing in the center of, and on top of, a smooth slab of rock on the shore of the Gulf, 25 yards from the water. It was lined with dried grasses, dried leaves and very small twigs.

The measurements in centimeters of the two nests are as follows:

	Nest "A"	Nest "B"
Long diameter of inside of nest	6 cm.	7.2 cm.
Short diameter of inside of nest	6	7
Long diameter (including lining of nest)	9	10.4
Depth from top of vegetation	3	3
Depth from top of nest	2.2	2
Depth from top of nest (including lining)	4.5	4.8

Both nests "A" and "B" contained four eggs, ovate in shape, and having only the barest trace of gloss. With Ridgway's 'Standards of Color Nomenclature' the following notes were made: ground color, deep olive-buff; deep shell marks of small spots, grayish-lavender heavily streaked and spotted with black; dark markings of very irregular size and shape more concentrated in a broad band near the larger end. On account of this nondescript appearance they were admirably suited to blend with their surroundings.

The measurements in millimeters of the eight eggs are as follows:

	Longest Diameter	Shortest Diameter
Nest "A," 1	34.5 mm.	23.5 mm.
2	34	23.5
3	32	23
4	33	23
Nest "B," 5	33	23.5
6	33	23.5
7	34	23.5
8	34.5	23.5

Since the incubated egg weighs less than the fresh egg, it was considered advisable to take weights at frequent intervals. The following results are in grams:—

	Jun. 27	Jun. 30	July 3	July 7	July 10
Nest "A," 1.....	9.65 gr.	9.10	9.10	9.00	hatched
2.....	9.70	9.40	9.40	9.25	hatched
3.....	9.55	8.70	8.70	8.60	8.60
4.....	9.60	9.10	9.10	9.05	8.80
Nest "B," 5.....	9.40	8.40	7.60	6.90	
6.....	8.90	8.40	8.40	8.10	
7.....	8.95	7.20	6.70	6.35	
8.....	9.05	8.50	8.50	8.30	

Since the eggs in Nest "B" hatched one day later than those in the other nest, I can think of no reason to explain their being lighter in weight. However, the fact that the shells of eggs 5 and 7 were slightly cracked on June 27 through an accident would no doubt account for their very marked loss of weight.

I know of no evidence to prove that the American species has ever reared two broods in a single season. In regard to the length of the period of incubation, its duration is still unknown. On West St. Mary's Island nest "A" found June 24, 1931, containing four eggs; these hatched July 10, sixteen days later. Nest "B" found June 26, 1931, likewise containing four eggs which hatched July 11, fifteen days later. These figures prove nothing except that the period is fifteen days or longer.

Incubation is carried on by both sexes of the Semipalmated Plover. This conclusion was arrived at as a result of observations made at nest "A" where the adult birds would relieve one another *both day and night* at intervals ranging from thirty-one minutes to two hours and nineteen minutes. Although it is impossible to determine definitely which sex does most of the incubating, it is, nevertheless, my general impression that the male[1] is the more active. I base my opinion on three factors: (1) the male was on the nest for longer shifts than its mate; (2) if undisturbed while incubating the eggs, the male was less suspicious; (3) but whenever the nest was in any way threatened, the male was invariably not only more fearless, but also more active in efforts to protect it.

[1] For the sake of convenience, one of the birds at nest "A" was faintly marked with brown stain which had been spattered about the edge of the nest. It is assumed that this was the male, on account of the fact that its collar was brighter and of a purer shade of black than that of its mate which showed traces of grayish-brown on each side. For brevity I shall refer to the bird, which I believe to be the male, as "P"; its mate I shall call "Q." Nevertheless, because of the difficulty in differentiating the sexes of the Semipalmated Plover by means of observation alone, the following conclusions must be considered as being merely hypothetical.

On June 25 a blind was pitched three feet from Nest "A." By the evening of the following day it was possible for one to enter and watch through a peep-hole the incubating bird which, although frightened off a short distance by the noise of the newcomer, would return to the nest after four or five minutes. Nevertheless it is only fair to say that, even as late as the day on which the eggs hatched, it would have been quite easy to scare either bird off the nest merely by talking in a loud whisper while in the blind. For that reason it was usually found necessary to observe silence.

The incubating bird presents an exceedingly charming study as it sits quietly with both wings contracted, the primaries of each just overlapping a little to one side or the other of the tail which is folded. When satisfied that the coast was clear, "P" would occasionally twist its head around and rest its bill behind either the right or the left wing-covert—a position which its mate, so far as I know, never assumed.

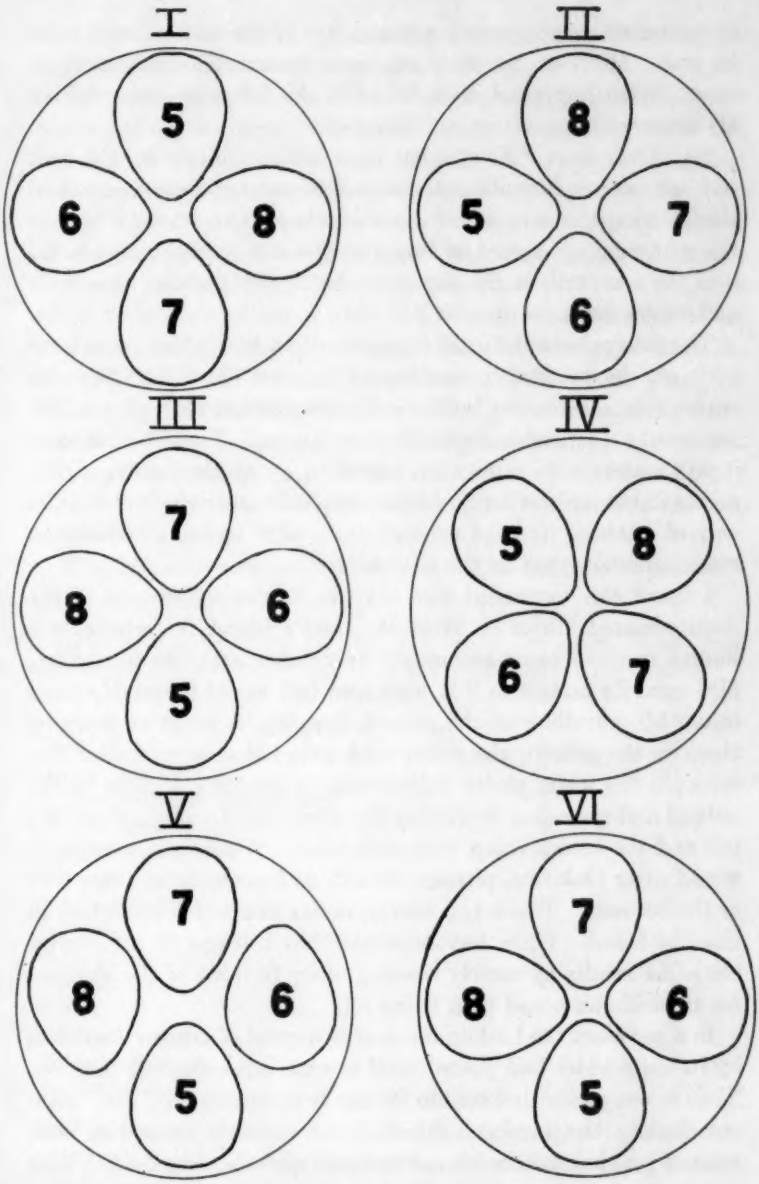
The position of the eggs in the nest varies considerably. Thus at nest "B" the following notes were compiled:

Since the nest itself is practically circular in shape the incubating bird sits facing in any direction. Occasionally it raises itself slightly, and with the under side of the lower mandible (the bill is closed) rolls over one or two eggs at a time. On settling down again the bird usually faces another slightly different direction, although it sometimes resumes its former position after having performed this task.

One of the most interesting characteristics of the Semipalmated Plover is the way in which the parents take turns on the nest. In order to describe the act more graphically I quote several lines hastily jotted down while in the blind observing nest "A."

"At 10.45 a. m. 'P' who is on the nest utters a loud, sudden *chup*. 'Q' is already seven or eight feet from the nest. 'P' gets up quickly, and the two birds start walking toward one another, passing close by without stopping, about three feet from the nest. 'P' utters two sharp *chups*, walks off about 15 feet and flies away. 'Q,' on the other hand, muttering three or four low *chups*, settles down on the nest, its body quivering noticeably especially the breast feathers. . . . At 11.42 'P' relieves 'Q'."

Sometimes the incubating bird is so absorbed by what it is doing,



Position of eggs in nest: I, July 2; II, July 4; III, July 5; IV, July 6; V, July 8; VI, July 9.

that its mate may approach within a foot of the nest before it quits its post. However, on one occasion the mate failed to return on time. What happened is described in the following excerpt from my notes:

"At 10.41 a. m. 'P' who has been sitting quietly on the nest suddenly utters four staccato *chups* followed by a *chup-e-rrr*, and then a countless number of repeated *chups*. At 10.44 'P' leaves the nest, runs off a yard or two, and flies away. For a moment I hear the same calls in the distance. At 10.47 'Q' walks up quietly and settles down on the nest."

The Semipalmated Plover is apparently a bird which relies very little on the protective qualities of its own plumage. For this reason it is not unusual for the incubating bird to be frightened off the nest by a human intruder fifty yards away. Even in such cases it will endeavor to attract his attention by quick decisive movements in the hope of luring him away. A characteristic trait is its way of bobbing its head up and down as it stands stationary in some particular spot on the tundra.

I found the "wounded bird act" to be not uncommon in the Semipalmated Plover on West St. Mary's Island, for, whenever a human intruder came alarmingly near either nest, the incubating bird (and its mate also if it were near by) would invariably feign injury by grovelling on the ground, flapping its wings or dragging them on the ground, and either raising its tail so as to render conspicuous the white under tail-coverts, or lowering it close to the ground and spreading it, making the white margin at the tip of the tail and the brown rump very noticeable. While thus engaged it would utter plaintive, piteous, *che-wits* as frequently as every four or five seconds. This act, however, serves as a last resort when all else has failed. When less desperate they attempt to accomplish the same results by merely running along in front of the intruder for some distance and then flying off.

In some cases the bird on the nest is warned of human intruders by its mate which had posted itself in some advantageous position. Thus it was almost impossible for one to approach nest "B" without finding the incubating bird some distance from the nest, warned well in advance by the repeated *che-wits* of its mate. This was not so, however, at nest "A," except at times when the feeding

bird was returning to relieve its mate of the duty of incubating the eggs and was consequently near by.

Unfortunately the discussion of the young is incomplete on account of my having to leave for Quebec on the morning of July 10, the day on which the four eggs in nest "A" hatched. The few notes that have been made, however, may be of some interest:

"At 9.00 a. m. 'P' is on the nest brooding not only two newly hatched chicks but also eggs 3 and 4 which, according to Charles Osborne, hatched that afternoon at 3.30 and 4.35. . . . At 10.06 there is an exchange and 'Q' comes on while 'P' goes off to feed, remaining, however, within a radius of twenty yards of the nest. At 10.11 'Q' is scared away by a noise inside the blind but 'P' appears almost directly. Immediately the two young birds waddle out of the nest and start walking slowly across the tundra. 'P' pays no attention to this and resumes incubation. At 10.14 'Q' settles down on the tundra where it starts brooding the two chicks."

The following measurements of the chicks are in millimeters,—

	1	2
Length	81 mm.	84 mm.
Extent	67	69
Wing	19	20
Manus	15.5	16
Down of tail	8	10
Tarsus plus 3rd toe	41	41
Web between 2nd and 3rd toes	3	3
Web between 3rd and 4th toes	6	6.5
2nd toe plus nail	14	14
2nd nail	2.5	2.5
3rd toe plus nail	18	18
3rd nail	3	3
4th toe plus nail	15	15
4th nail	2.5	2.5
Bill	7	7
Bill from nostril	5	5
Bill from gape	8	8
Weight (grams)	7.5	7.8

With the aid of Ridgway's 'Color Standards and Nomenclature' the following description was made of one of the newly-hatched chicks: underparts, white with down of extreme posterior portions

tinged with buff; crown, pale buff heavily spotted and marked with black; posterior part of crown extending from auricular region of one side to that of the other through the region of the nape, black; an irregular black line extending from the side of the crown through the lores to a point near the base of the bill; a band of white extending from the throat, from one side to the other, posterior to black band of the nape; the remainder of the upper parts similar to the markings of the crown, being a variegated mixture of black, gray, and various shades of buff; down covering the manus, white; bill, olivaceous-black; upper parts of toes and anterior parts of tarsi and naked parts of thighs, deep mouse gray; underparts of toes and posterior parts of tarsi and thighs, pale cream-buff; toe-nails, black; down of lower eyelid, dusky-white.

Bowdoin College, Brunswick, Maine.

THE MOURNING WARBLER (*OPORORNIS PHILADELPHIA*) NESTING IN WISCONSIN.

BY OWEN J. GROMME.

Plate V.

Authors seem to disagree upon the breeding status of the Mourning Warbler in Wisconsin.

In 'The Birds of Wisconsin' by Kumlien and Hollister (1903) page 118, they give the opinion that the species never breeds in Wisconsin and that any published record of a Wisconsin breeding must surely refer to *O. agilis.*

A. W. Schorger in his 'Birds of Dane County, Wisconsin' (1931), page 32, states that the breeding bird in northern Wisconsin is *O. philadelphia* and not *O. agilis.* In a letter to me Mr. Schorger tells of observing an adult Mourning Warbler carrying food during the breeding season at Lake Owen, Wisconsin. The logical conclusion of course is that food was being carried to the young.

In view of the foregoing, the details of the finding of a nest of the Mourning Warbler near Germantown, Wisconsin, on June 19, 1932, will be of interest. A party of us were walking through a heavily wooded lowland, which bordered an expanse of marsh. Large basswoods, maples and elms almost completely shaded the tangled growth beneath and in the more open places were large patches of nettle and jewel-weed which grew knee high. While "wading" through the jewel-weed, the writer was brought to a sudden halt by Mrs. Gromme. She saw tiny eggs rolling or "spraying" ahead of my feet as I unconsciously kicked a small nest from its slender attachment. We could identify neither the eggs nor the nest as the parent bird was nowhere in evidence. We did the next best thing and, after replacing the five eggs, we set the nest upright and concealed it as best we could. Within five minutes a female Mourning Warbler had returned and settled to her incubating.

Originally the nest had been built on a slight hummock, which elevated its base about three inches from ground level. It was placed among the upright stalks of living jewel-weed, the leaves of which almost completely concealed it from view from above. The

dead stalks of jewel-weed and layers of elm leaves were used in its general construction. It was deeply and perfectly cupped and lined with fine grasses and a few horse hairs. For so small a bird the nest appeared bulky.

Realizing the possibility of further studies and photography, we did not further disturb the bird and left the locality. On June 20 the nest was again visited. We almost touched the bird before she slipped off "mouse-like" and quietly watched us from her hidden position on the ground only a foot away. We took one of her eggs for a museum record and, relying upon her tameness, decided to try for some pictures without a blind. When we pushed aside the intervening foliage and thus exposed the nest to open view, she became very nervous and repeatedly fluttered to the overhead twigs and back to the ground and nervously emitted a single-syllabled "tsip." Her call soon attracted the male bird, which joined her in her demonstration of anxiety and uttered a similar call. Neither bird came to the nest until foliage was replaced and camera removed. On June 22 two of the young hatched and on the 23rd the other two emerged. When we arrived to build a photographic blind the female was not on the nest. We hammered and pounded on the framework only three feet away and sometime during the half hour interval the female bird quietly slipped on in spite of the noise we made. On the 24th I spent two hours in the blind and after parting the foliage at the nest, made both movies and still pictures of the brooding bird. During that interval the male came close only once and from the nest his mate answered his "*tsip.*" During our work with this pair neither parent bird uttered any other call of which we are aware.

In order to admit photographic light it was necessary to remove several overhead branches. It is possible that the heat caused by the newly admitted sunlight on the nest area affected the young, for on the next afternoon we found the female bird brooding her youngsters which had been dead for only a short time. We collected the female, nest and young, but neither on that day nor the next did we get a glimpse of the male.

As far as I am aware, this is the first occasion of the finding of the nest of this species in Wisconsin.

Milwaukee Public Museum,
Milwaukee, Wis.

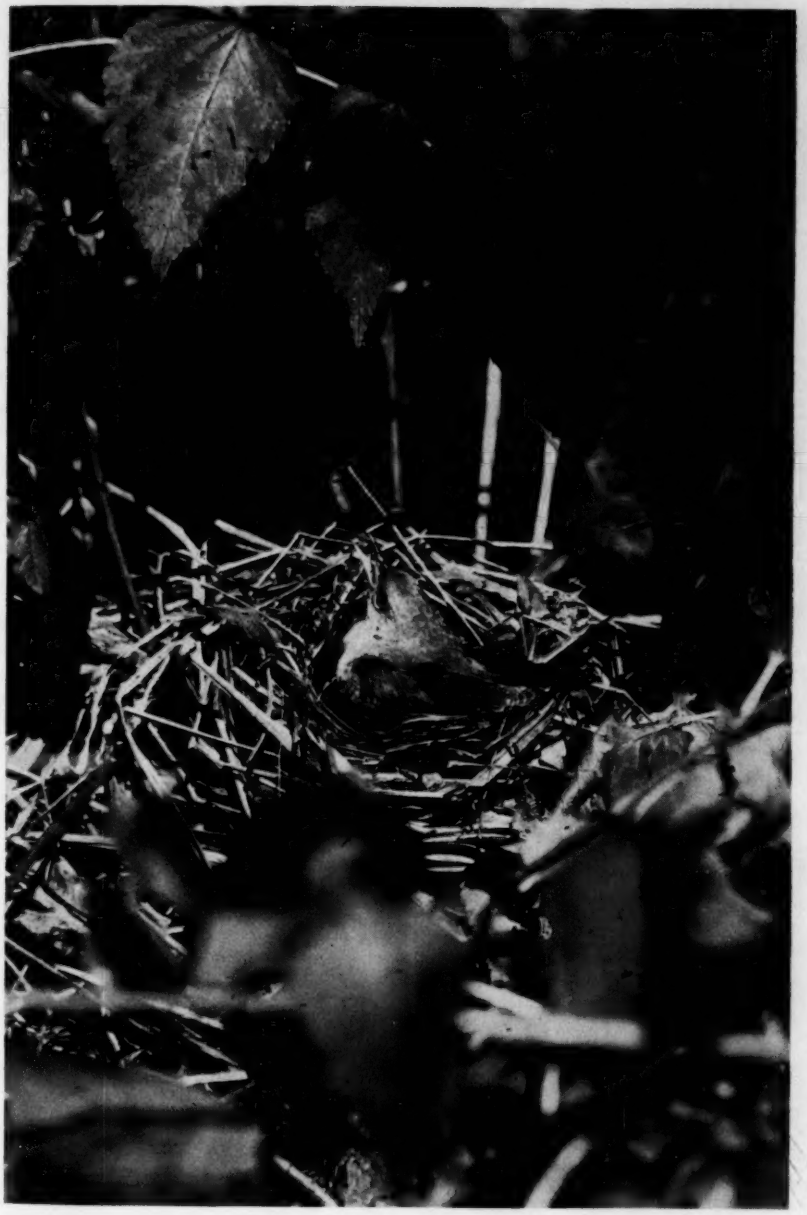


Photo by O. J. Gromme.

FEMALE MOURNING WARBLER ON NEST.

IMPORTANT HERON ROOKERIES IN SOUTHEASTERN IDAHO.

BY C. LYNN HAYWARD.

IN THE extreme southeastern corner of the state of Idaho lies a long, narrow valley. The southernmost end of this region is occupied by Bear Lake, a deep, blue body about twenty miles in length; and stretching to the northward on the level valley floor are many acres of swamplands, meadows and sloughs which form an ideal nesting ground for many species of shore and water birds.

Among the many interesting forms that have been under observation for the past number of years have been the nesting colonies of Treganza's Heron (*Ardea herodias treganzai*), Brewster's Egret (*Egretta thula brewsteri*) and the Black-crowned Night Heron (*Nycticorax nycticorax hoactli*).

The rookeries of the Egrets and Night Herons occupy about ten acres in the most inaccessible portion of the swampland. In spring and summer water covers the nesting grounds to a depth of about three feet and there is a rank growth of tules and cattails over the whole region. Later in the season, however, after the nesting time is over, much of the water is drained off and some of the finer tules and wild grasses are cut for hay.

The nests of the two species occur in close proximity and are very similar in general construction. They are composed of dry tules piled rather loosely into a platform which rises from one to two feet above the surface of the water. Dry tules of the previous year which have fallen into the water as well as green ones growing about them serve to support the nests. The nests of the Egrets are on the average built somewhat higher above the water than are those of the other species and are generally slightly smaller in diameter. From three to five eggs are laid by both species but the most usual number is four.

Brewster's Egret arrives in Bear Lake Valley late in April or early in May when they may be seen in large flocks resting in the open fields near the nesting grounds. By the middle of May or earlier the nests are under construction and egg laying begins very

soon afterward. When the colonies were visited on June 4, 1928, the eggs were in various stages of incubation and a few of the young were hatched. Not more than four eggs were in any of the nests at this time, but the egg laying was apparently not over. When the colony was visited again on July 12 of the same season, all of the eggs were hatched although some of the young appeared to be only a few days old while others were nearly full grown. Although the nesting season in this region may seem somewhat late as compared with that of the Egrets of the Bear River Bay Region in Utah which Bent (1) records as being from April 22 to May 28, this is quite easily explained by the fact that the seasons are from two to three weeks later in the Bear Lake territory.

The Egrets remain in the valley until about the middle of September though I have never observed them in the region later than September 8.

The habits of the Night Herons are somewhat different from those of the Egrets in spite of the fact that the nests of the two species are very much alike. The nesting season of the Night Herons apparently begins earlier. When the nests were visited on June 4, 1928, most of the eggs had hatched, but it was not uncommon to find half grown young, newly hatched young and eggs in the same nest. As was stated before, only a few of the Egrets had hatched on this date. By July 12 all of the Night Herons had hatched and many of them were as large as the adults. These young would often alight in deep water and swim about after the fashion of Ducks.

The Night Herons probably arrive in the valley earlier than the Egrets and it is not uncommon to see stragglers in the region late in November, in spite of the usually severe weather at that season.

When these rookeries were visited in 1928, it was estimated that there were about two hundred nests of the Egrets and from three to four hundred nests of the Night Herons. Subsequent visits indicate that the colonies are in no way being reduced but are probably steadily increasing. The nature of the country in which the nests are situated makes them most difficult to reach and it is probable that they will remain unmolested for many years.

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[1] Bent, A. C. 1926. 'Life Histories of North American Marsh Birds,' U. S. National Mus., Bull. 135, p. 156.

The nesting grounds of Treganza's Blue Herons are located on the east side of the valley in the Cottonwood groves bordering Bear River. The rookery covers an area of about ten to fifteen acres and contains several hundred nests. It has been in existence since the valley was first settled in 1863 and doubtlessly was there many hundreds of years before that time. It is probable that this nesting site is molested very little.

The nests are built in true Heron fashion of large sticks piled loosely in the forks of the trees well above the ground. Egg laying begins early in May and by the last of the month many of the young have hatched. When the nesting season is in full swing, the squawks of the adults and young can be heard for a distance of several blocks away.

Treganza's Blue Herons arrive in Bear Lake Valley early in April and do not depart until the streams and ponds are well frozen over in late October or early November of normal years. They are common objects along the lake shore and the margins of streams throughout the summer months.

News of the actual increase of these large, slowly waning forms of bird life is of interest to ornithologists and nature lovers throughout the land and lends encouragement to those who may be striving to prevent their extinction.

Brigham Young University,
Provo, Utah.

DESCRIPTION OF A NEW MEADOWLARK FROM SOUTHWESTERN MEXICO.

BY GEORGE B. SAUNDERS.

DURING the progress of a taxonomic review of the genus *Sturnella*, it has developed that the subspecies of *Sturnella magna* which breeds in southwestern Mexico, from Sinaloa south to Michoacan, is quite distinct from either *S. m. lilianae* Oberholser,[1] which breeds to the north in Sonora and Chihuahua; *S. m. mexicana* (Sclater),[2] which occurs to the east in Vera Cruz; or *S. m. alticola* Nelson,[3] which breeds to the south in Oaxaca.

Because of the unusual tone of golden or rich orange that suffuses the yellow of its breast, it seems fitting to name this new Meadowlark

Sturnella magna auropectoralis subsp. nov.

JALISCAN MEADOWLARK.

Type.—♂, adult.—Field Museum No. 12860, collected May 5, 1902, at Tuxpan, Jalisco, Mexico, by George F. Brenninger; in slightly worn breeding plumage.

Subspecific Characters.—This form is most closely related to *S. m. lilianae* of the northern plateau region of Chihuahua, Sonora, central and southern Arizona and New Mexico, and southwestern Texas; and to *S. m. alticola* of the southern Mexican and Central American highlands.

It agrees with *S. m. lilianae* in having the third rectrix (from without) entirely or almost entirely white; in the unusual tone of golden orange of the breast, which is veiled with pale saffron in the winter plumage; in the whiteness of its cheeks in the breeding plumage; in the shortness of the tarsometatarsus and tail, when compared with those of the other races of *S. magna;* in the size and shape of the jugular crescent, which is relatively shallow; and in the close restriction of the yellow to the throat region.

It differs from *lilianae* in having much darker upperparts, the interscapulars being dominantly black with relatively smaller distal spots and bars of brown; in having the bars on the middle pair of rectrices and on the upper tail-coverts usually heavily confluent instead of isolated; and in its shorter wing.

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[1] Oberholser, H. C. Sci. Pub. Cleveland Mus., 1930, Vol. 1, No. 4, pp. 103–104. (Huachuca Mts., Arizona).

[2] Sclater, P. L. Ibis. 1st series, III, 1861, p. 179. (Jalapa, Vera Cruz, Mexico.)

[3] Nelson, E. W. Auk, 1900, Vol. XVII, pp. 266–267. (Ocuilapa, Chiapas, Mexico.)

This western subspecies is similar to *S. m. alticola* in the dark coloration of its upperparts; in the solid black shaft markings of its upper tail-coverts, a pattern which is conspicuously different from the spotted or barred one exhibited by most specimens of *lilianae;* and in the confluence of the bars on the middle rectrices.

It differs from *alticola* in having the third rectrix white (in plumages following the first post-nuptial molt), whereas that of *alticola* is usually more or less bordered with black; in the more orange tone of its yellow breast, and the heavier and more extensive saffron veiling over this yellow in the winter plumage; in its shallower crescent; in the closer restriction of the yellow to the throat, *alticola* often having this color extending on the cheeks; in its white instead of grayish white cheeks; and finally, in its different proportions,—i. e., its relatively longer wing, shorter tail and tarsometatarsus and slightly shorter culmen.

Description.—Adult ♂, breeding plumage.—Lateral crown stripes black, usually streaked narrowly with olive wood brown; cheeks whitish; interscapulars largely black, with distal spots or bars of brown (coffee to burnt umber); upper tail-coverts with confluent black shaft markings; the black bars on the middle pair of rectrices usually heavily confluent on a background of grayish brown (cracker brown); the third rectrix (from without) almost invariably white, unmarked with black on the basal portion of the inner web for birds in their second breeding plumage or older, but usually marked lightly for birds in their first winter or breeding plumage; throat, breast and abdomen bright golden yellow tinged more or less strongly with orange; yellow not extending on the cheeks; black jugular crescent relatively shallow; sides and flanks buffy white, often tinged with pale saffron; bill with the upper mandible blackish, the lower mandible with a bluish cast; legs and feet pale brown (tanbark) in dried specimens.

Adult ♂, winter plumage.—As in breeding plumage except as follows: Cheeks buffier due to veiling; interscapulars showing a distal spot of brown which is usually more or less plainly broken into two or even three bars; the interscapulars and tertiaries without the broad cream white edging which usually characterizes those of *lilianae;* the black jugular crescent veiled with cream buff and yellow in fresh plumage; the breast, sides and flanks heavily veiled with pale saffron, which, overlaying the golden yellow, gives it a decided orange-pink tone; bill browner, with little or no bluish cast.

Adult ♀, breeding plumage.—Slightly browner above than the male; crown stripes usually more streaked with brown; yellow of the underparts decidedly paler; jugular crescent smaller and occasionally partially veiled; bill browner.

Adult ♀, winter plumage.—As in the breeding plumage except as follows: The interscapular pattern is clearly visible in fresh plumage, and the underparts are much more heavily veiled with pale saffron This veiling is heavier and persists longer in the ♀ than in the ♂.

Measurements.—Adult males, in millimeters.

	Wing	Tail	Tarsus	Culmen
Average of 12 *auropectoralis*.....	116.05	67.51+	40.76	30.90
" " 39 *lilianae*.....	119.49	73.30	39.55	31.42
" " 45 *alticola*.....	110.48	74.69	43.19	30.53
" " 10 *mexicana*.....	104.45	69.50	41.12	29.63

Adult females in millimeters.

	Wing	Tail	Tarsus	Culmen
Average of 4 *auropectoralis*.....	105.02	61.97	37.62	29.02
" " 11 *lilianae*.....	105.65	63.64	36.70	28.43
" " 21 *alticola*.....	98.2	65.32	38.73	28.53
" " 3 *mexicana*.....	97.15	67.00	39.60	29.50

Distribution.—Breeds in the mountain meadows, plateau and coastal grass-lands of southwestern and central Mexico, from the states of Michoacan and Guanajuato west and north to Jalisco and Sinaloa.

The breeding season is apparently coincident with that of *S. m. lilianae* and *S. neglecta* of the southwestern United States; that is to say, from late February to July.

The migratory movements of this form are probably quite restricted. Winter specimens have been taken as far north as Mazatlan, Sinaloa. The large flocks of wintering *S. magna* observed by Beebe[1] at Chapala, Jalisco, were doubtless of this subspecies.

Remarks.—Specimens of *S. m. auropectoralis* which were examined in the course of this study bore the names, "*S. m. mexicana*," "*S. m. alticola*," "*S. magna*," or "*S. ludoviciana*."

Ridgway[2] referred to examples of this subspecies as *S. m. mexicana* (Sclater), and gave the measurements of eleven Mexican specimens which agree with those of *auropectoralis*. It is clear that Ridgway was mistaken in applying the name *mexicana* to this long-winged race instead of to the small, short-winged Meadowlark of Vera Cruz and Tabasco. Sclater, in his description, made specific mention of the "inferior" dimensions of *mexicana*. The true *mexicana*, Ridgway included under *inexpectata*.

Although long classified with *mexicana*, *auropectoralis* has its nearest relative in *lilianae*, which it probably preceded, differing from the latter chiefly in its shorter wing, smaller body and darker coloration. These differences are doubtless correlated with its more tropical environment.

In breeding plumage, *auropectoralis* and *alticola* are not strikingly

[1] Beebe, C. W. Two Bird Lovers in Mexico, 1905, pp. 114–116, 392.
[2] Ridgway, R. Birds of North and Middle America, 1902. Vol. 2, pp. 362–363.

different. The genetical gap between them is apparently considerable, as they show decided differences in body proportions, as well as in color pattern.

These three subspecies, *alticola*, *auropectoralis* and *lilianae* probably have come from the same highland stock. Genetically speaking they are widely separated from *S. neglecta*, which likewise occurs in the Mexican plateau region.

The degree to which these three races are isolated from each other remains to be learned. They may intergrade as do *S. m. hoopesi* and *S. m. argutula*, or they may be isolated by some distributional barrier, as are *S. m. hoopesi* and *S. m. lilianae*.

Specimens which may represent intergrades between *alticola* and *auropectoralis* have been collected in the state of Puebla, Mexico.

For the use of the specimens upon which this study was based and for other courtesies, the writer wishes to express his gratitude to the following persons and institutions:

Rudyerd Boulton, Field Museum of Natural History, Chicago; Dr. Herbert Friedmann, United States National Museum, Washington; Dr. F. M. Chapman and John T. Zimmer, American Museum of Natural History, New York City; James L. Peters, Museum of Comparative Zoölogy, Cambridge; W. E. Clyde Todd, Carnegie Museum, Pittsburgh; Dr. J. Grinnell, Museum of Vertebrate Zoology, Berkeley; and Dr. J. Van Tyne, University of Michigan Museum, Ann Arbor.

He is also deeply indebted to the Board of Fellowships in the Biological Sciences of the National Research Council for its support of his research on the genetics and cytology of birds and to the Department of Zoology, Texas University, for its helpful coöperation during his studies. The data for the present paper were gathered during the progress of studies on the genetical relationships of the Meadowlarks.

Department of Zoology, University of Texas,
Austin, Texas.

JOHN ELIOT THAYER.

1862–1933.

BY JOHN C. PHILLIPS.

LANCASTER, in Massachusetts, has been identified with the Thayer family for nearly a century and a half. It stands there today, an aristocrat among towns, solidly planted near the west bank of the Nashua River some thirty-five miles from Boston. Its comfortable homes, well-kept lawns and shrubbery, above all its splendid shade trees, bear mute testimony to the loving care of a generation of Thayers now unhappily gone. And among these none will be longer remembered than John Eliot Thayer.

In a part of the world where rural centers long ago lost their cultured leaders and much of the old social tradition, John Thayer stands out as the finest example of what a New England country gentleman ought to be. Indeed I can think of no other alive today who is filling quite the same niche that he did.

People of means now identify themselves almost wholly with city life and city interests, migrating to the country for short summer seasons, but John fixed upon Lancaster and his bird collections as almost his sole interests. In Lancaster he could be found winter and summer, in fair weather or foul, at his home on George Hill Road, and his fellow townsmen knew that in case of need his genial spirit would not fail them. He despised the city. In several places in his little diary of winter bird notes appear remarks such as this: "Had to go to Boston, how I hate it."

Lancaster is an old town. It was settled by colonists from Watertown, Massachusetts, in 1643, who probably were attracted by the rich bottom lands along the river. Even today when New England agriculture has reached a very low ebb, those fertile meadows produce fine crops of hay and vegetables, while on the slopes of the hills are flourishing orchards of Mackintosh and Baldwin apple trees. In some of these orchards John Thayer loved to work.

The town runs mostly along a single street for a mile or more and in its southern part stands the beautiful Thayer Museum of Or-

nithology where the huge collection of North American birds was housed.

John Eliot Thayer was born in Boston in April 1862 and died in Lancaster July 22, 1933. His grandfather, Reverend Nathaniel Thayer, came to Lancaster from Hampton, New Hampshire, and began preaching there in 1792.

John graduated from the Hopkinson School in Boston and from Harvard with the class of 1885. He was first marshall of his class and one of its most popular members. He was given an honorary A.M. from Harvard in 1910. He married Miss Evelyn Duncan Forbes in 1886 and soon after, in 1888, moved into the large cheerful house, on George Hill Road, where with his family he spent the best part of his life. He is survived by Mrs. Thayer and five children, all married.

It seems rather odd to find that John was not actively interested in birds when he was a boy. I dare say he went through the usual stages of nest and egg collecting, but he seems to have dropped that interest and not to have taken it up again for some time. During his college period he, with his brother Bayard, maintained large kennels on George Hill Road where they raised fox terriers, deer hounds and old-fashioned English bull dogs.

Next followed an absorbing interest in horses which lasted through the middle nineties. In 1892 he bought the famous trotting stallion, Ralph Wilkes (2.06¾) who died in 1895. Then followed a stallion named Electricity (2.17¾). After this he purchased Baron Wilkes from a Kentucky breeder, reported at that time as the greatest living son of the renowned George Wilkes. At this time John Thayer was President of the New England Trotting Horse Breeders' Association and of the Worcester East Agriculture Society. In the late nineties he turned from horses to his permanent interest in birds.

At first his aim in ornithology was chiefly to get together a collection of all the local birds and he paid special attention to nests and eggs. About this time his eldest son was of an age to go into the field and John was keen on showing the local avifauna to him. Soon, however, his interest broadened so as to include the whole of North America. His collections were at first housed in several wooden buildings close to his home, but when these became unsafe

and crowded he built the beautiful brick building in the town of South Lancaster and opened it to the public in November, 1904. The lower floor contained his little office, all his skin, nest and egg cabinets and a few habitat groups of local birds. The upper floor was devoted to a very complete mounted collection from all of North America.

In the visitors' book of the Thayer Museum appear the names of nearly all the ornithologists of the time, and it is interesting to note that in spite of the fact that Lancaster thirty years ago was rather far off the beaten path, more than ten thousand visitors came to the museum in the first six years. After that no tally seems to have been kept.

From now on John strove in every way to make his collections as complete as possible with large series of beautifully prepared specimens. He sent out collectors to Alaska, north-eastern Siberia, the Queen Charlotte Islands, Lower California and northern Mexico. In 1931 the whole of this collection was given to the Museum of Comparative Zoölogy at Harvard, but it is to be hoped that the Lancaster Museum, with at least a synoptic collection of mounted birds, will remain as a memorial to his enthusiasm. His library of ornithology was kept in his house, all save a few working books. This was sold and dispersed in 1931.

Space is lacking in which to enumerate more than a few of the outstanding rarities in the Thayer collection, but among them may be mentioned a magnificent mounted specimen of the Labrador Duck, another of the Great Auk with eleven eggs of that species, four specimens of the rare western race of the Carolina Parakeet, a series of Eskimo Curlew, a series of Ivory-billed Woodpeckers and Imperial Woodpeckers; eggs of the California Condor, the Surf Bird, the Spoon-billed Sandpiper and a set of Knot's eggs taken by Admiral Peary on his last trip to the Arctic.

The Thayer museum was also enriched by some very fine original Audubon paintings which have already gone to the Museum in Cambridge.

He had been an Associate of the American Ornithologists' Union since 1898 and was elected a Member in 1905. All his important contributions were published with Outram Bangs as co-author.

And now a few words as to the real John Thayer. You felt

rather than saw his easy, beaming presence almost before you were aware that anyone else was in the room. His simplicity and directness, rarest of human attributes, were almost childlike, but they served to put any group of people immediately at ease. It was not what John said or did at a meeting, for he was far too modest to trumpet his own views; it was his comfortable presence that gave us all a sense of well-being.

With children he had a rare gift. Open-hearted and simple himself, he won their love and confidence without effort and the hosts of letters in which his youthful friends expressed their sorrow after his death show better than anything else how "Uncle John" was appreciated.

He almost never traveled, and he never went on an ornithological collecting trip. Once when a youth he went to Europe and this with several early journeys to the West and to Mexico seem to have satisfied any slight curiosity for sight-seeing that he may have had. In one place in his winter bird diary he says under March 17: "Off for Florida for two weeks. This is a mistake for the weather here (Lancaster) is like summer and what more can anyone ask?"

The winter and early spring birds seen around his orchards and at his feeding boxes gave him the keenest possible pleasure and these with his ever growing family (he could boast of eighteen grandchildren before he died), as well as positions in town, church and library, and in his beloved museum, kept him busy every day of the year.

John was not an especially keen sportsman, but he was an excellent shot. He belonged to the grand old Currituck Club and went there for a two weeks' duck shoot every year, until five or six years ago. Then he found that times had changed too much. His old shooting companions were mostly dead and he complained that cocktails and cards and federal regulations had ruined the less sophisticated customs of the early days that he loved so well.

In his bird journal there is only one allusion to his sporting proclivities. On January 6, 1898: "Shot a rabbit and brought him home for a pie." January 9—"Had my rabbit pie today. Whether the cook doesn't know how to cook rabbits or whether this one was as old as the Ancient Mariner, I can't say. At any rate it was very

tough and gave me a terrible indigestion; moral: don't shoot rabbits." Many of the winter bird notes, written in a beautifully small, rounded hand, are touched with a quaint humor and would bear repeating here if space allowed.

John enjoyed robust health up to the time of his severe illness early in 1928. His stocky, athletic figure was full of energy as the following quotation taken from his diary of July 22, 1926, when he was sixty-four years old, will prove: "Temperature 103°, the hottest day to date in the history of Boston. I worked all day in my orchard thinning apples. It was 100° in the shade at my house. I dismissed my help at four o'clock, but worked myself until six. Pretty good for an old fellow."

No notice of John Thayer's life would be complete without some reference to the positions of trust which he filled in Lancaster and elsewhere. He was the oldest Vice-President in point of service in the Massachusetts Forest and Park Association (Vice-President for Worcester County since 1908). He was also for many years a trustee of that ancient Massachusetts Society for Promoting Agriculture, dating back to the eighteenth century. He served for at least ten years on the Executive Committee of the Massachusetts Fish and Game Association. He held the position of tree warden of Lancaster ever since the State Tree Warden law went into effect in 1901. But that was not the beginning of his active interest in trees for in his first report he says "For the last ten years, as a member of the Road Commission, I have taken this department under my care, so that in reality we have had a tree warden for a good many years."

As a member of the Board of Trustees of the Lancaster Town Library, he served from 1888 to 1933, without doubt the longest individual membership on any board in the town. But this is not the most important, for as the resolution upon his death says, it was his regularity of attendance, his generosity, tact and cheerfulness that made his long service so noteworthy. As a trustee of the Clinton Hospital Association, as a Selectman of his own town for thirty years, as President of the Lancastriana Society and as benefactor of his local church his memory will last for many years. During the War he served on the draft board of Division 14 for

Clinton, Leominster and Lancaster, financing the office work entirely from his own pocket.

It would be impossible to list or even hint at his benefactions save to say that after attending to charities at home in Lancaster, as was fitting, his name was found wherever worthwhile philanthropy asked for aid. But chiefly, his interests were in the domain of agriculture, horticulture, conservation and the study of birds. His best friends were the men of his own town and the few ornithologists who were closest to his heart, Outram Bangs and William Brewster. Outram's death was one of the severest blows of later years, from which I dare say he never recovered.

John was never able to lead an active existence after the winter of 1927–28. Although naturally gay and light-hearted, life with its ever increasing limitations was too much for him. Fortunately he was spared a long, painful illness for he was actually confined to his bed for a few weeks only.

And so we must leave him, safe in the knowledge that his rare qualities will be perpetuated in the character of his descendants and in the hearts of his friends. He was in very fact the first and probably the last "John of Lancaster."

"God gave all men all earth to love,
But since out hearts are small,
Ordained for each one spot should prove
Beloved over all;
That as He watched Creation's birth,
So we, in godlike mood,
May of our love create our earth
And see that it is good."

Wenham, Mass.

THE SEMI-CENTENNIAL MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION NOVEMBER 13–16, 1933.

BY T. S. PALMER.

THE Semi-centennial Meeting of the American Ornithologists' Union in attendance, program, exhibits and field trips was the largest and one of the most successful meetings in the history of the organization. The American Museum of Natural History in New York, where the Union was founded half a century ago, was the place selected in which to review its record and celebrate its jubilee meeting. Unlike the initial meeting of 1883 when, on invitation of three officers of the Nuttall Ornithological Club, 21 individuals assembled to found the Union, the convention of 1933 brought together not only a large number of members but the officers and members of two vigorous off shoots of the Union, the U. S. Biological Survey and the National Association of Audubon Societies and representatives from many colleges, universities, museums and conservation organizations in Canada and the United States. A full week was spent in conference, discussion and exchange of ideas regarding modern bird study in all its phases. As a record of ornithological activity a memorial volume entitled 'Fifty Years' Progress of American Ornithology' prepared for the occasion was distributed at the meeting.

The public sessions were held in the Education Building of the Museum and the headquarters were at the Hotel New Yorker, Thirty-fourth Street and Eighth Avenue. Direct connection with the Museum was provided by the Eighth Avenue Subway.

Business Sessions:—The meetings on Monday included two sessions of the Council at 10 A. M. and 2 P. M., a meeting of the Fellows at 4 P. M., and a meeting of the Fellows and Members which lasted from 8 P. M. until after midnight. At the meeting of the Fellows an amendment to the By-laws was adopted increasing the number of Members that may be elected at any meeting from five to ten, and John T. Zimmer of New York was elected to fill the single vacancy in the list of Fellows.

At the business meeting 26 Fellows and 35 Members were present. The Report of the Secretary showed a total membership of 1993. The Treasurer reported total receipts of $9,240.13 and disbursements of $8,826.64 with a balance of $413.49 on October 18, 1933. The Report of the Trustees, presented by the Chairman, showed the condition of the permanent funds of the Union.

The election resulted in the choice of three Corresponding Fellows, nine Members (including one by transfer from the Corresponding Fellows), and 167 Associates. The officers of 1933 were all re-elected for the ensuing year.

The business was confined chiefly to completion of projects already under way, including appropriations for printing the 'Ten Year Index of the Auk, 1921–1930,' partly in type, the publication of the memorial volume, 'Fifty Years of Progress of American Ornithology, 1883–1933,' and a contribution toward the publication of the chapter on 'Aves' in the annual volume of the 'Zoölogical Record.' Chicago was selected as the place of meeting in 1934, and the President, J. H. Fleming, was appointed as the Delegate of the Union to the Eighth International Ornithological Congress in Oxford, England, next July.

The Brewster Medal for 1933 was awarded to Dr. Frank Michler Chapman for his 'Hand Book of the Birds of Eastern North America,' 1932.

Appreciation of the various courtesies extended to the Union during the meeting were expressed by the adoption of resolutions of thanks to the Local Committee of Arrangements, the President and Trustees of the American Museum of Natural History, the Zoölogical Society of New York, officers of the New York Aquarium, the Linnaean Society of New York, the National Association of Audubon Societies, the Long Island State Park Commission, the Department of Dramatic Production of Vassar College and to Mr. and Mrs. Carll Tucker.

Public Meetings:—The public meetings opened on Tuesday morning with an address of welcome by President F. Trubee Davison of the American Museum and a response on behalf of the Union by Dr. Alexander Wetmore, Assistant Secretary of the Smithsonian Institution. Following the roll call of Fellows and Members

and a report of the business meeting, a letter of greeting was read from the Deutsche Ornithologische Gesellschaft.

The program included 70 papers, only five of which were read by title. Many of the papers were short but in order to afford time for discussion double sessions were necessary both morning and afternoon on Wednesday and on Thursday morning. The outstanding papers were probably those containing the latest results of experimental investigation in reproduction. These included Dr. Oscar Riddle's 'Birds as Material for Elucidating the Process of Animal Reproduction,' Dr. T. H. Bissonette's 'Modification of the Sexual Cycles in Birds by Changes in Time, Period and Intensity of Light,' and Dr. L. C. Dunn's 'Heredity of Morphological Variations in Birds.' Dr. Ernst Mayr presented a review of 'Physiology of Sexual Dimorphism in Birds' and Dr. G. K. Noble discussed the question 'Why Study Bird Courtship?'

An interesting paper was presented by James Bond on the 'Status of Birds in the West Indies considered Extinct or near Extinction' in which he showed that some 22 species were in danger of extinction but maintained that man rather than the mongoose was the chief cause of rarity or extinction of birds in this area. The Game Bird session on Thursday morning was one of the most popular and brought forth considerable discussion. Beginning with the account of the Red Quail of Tennessee by Dr. Friedmann, several papers followed on the condition of Grouse in New York and a report on the status of water-fowl in eastern Canada by Dr. H. F. Lewis who stated that while Canada Geese had decreased to only a fraction of their former abundance, Snow Geese and Blue Geese, on account of a favorable breeding season, were probably near the maximum of their abundance. The present condition of water-fowl in the United States was outlined by Dr. Oberholser and the eel grass shortage discussed by Clarence Cottam.

Other contributions of special interest were Mrs. Etta S. Wilson's 'Personal Recollections of the Passenger Pigeon' in Michigan, and Pettingill's account of the 'Cobb Island Virginia Bird Reservation Disaster of 1933.' Chapman's 'Season's Guests' at Miami, Florida, Moore's 'Mount Sangay Labyrinth of Ecuador and its Fauna' and Rogers' 'Himalayan Walking Trip' gave interesting accounts of birds in diverse regions in America and the Old World.

Motion pictures were fewer than usual but outstanding examples were shown in Oastler's Trumpeter Swan pictures, Bailey's 'Gannet Ledges of Bonaventure' and 'Along Audubon's Labrador Trail.' The last word in direct color photography was presented in a beautiful series of pictures by A. C. Shelton under the title 'AGFA Color Plates—Direct Color Photography for the Naturalist.' The final paper, presented by A. R. Brand on 'Sound Hunting with a Sound Truck,' showed the remarkable progress which he has made during the last three years in recording bird notes. While much remains to be accomplished in blotting out discordant sounds, with proper apparatus and a suitable hall, some of the notes can now be produced with wonderful distinctness and accuracy.

Exhibits:—The exhibition of 'Birds in Art' was the most extensive, complete and best arranged of any exhibit thus far attempted by the Union. The paintings, photographs, pieces of sculpture and other art objects were carefully selected and installed in Education Hall under the personal supervision of a committee consisting of Courtenay Brandreth and F. L. Jaques. The miscellaneous art objects included a group of prehistoric American pottery, textiles and stone objects, carved Chinese and Japanese birds, ceramic ducks and a group of painted wood carvings. An artistically printed catalogue comprising 283 items and a list of 37 photographs enabled ready identification of the pictures and other objects.

The exhibit included selections from the works of nearly all living American bird artists as well as of Audubon, Fuertes and Joseph Wolf. The most extensive series, 34 paintings by Fuertes, was arranged in four groups, representing the 'Boyhood Period, 1882–1891,' the 'Coues-Thayer Period, 1895–1900,' 'Later Works' and 'Field Sketches.' Six original drawings made by Audubon for his 'Birds of America,' including the celebrated male Wild Turkey, were loaned by the New York Historical Society, and three works by the eminent Swedish painter of nature Bruno Liljefors showing Eider Ducks, Geese and Eagles were generously loaned for this occasion. As explained by the committee, bird pictures have either of two primary objectives—one relates to the type of portraiture designed to aid in identification, " the other seeks the plane of sensuous and emotional appeal and has, in fact, no other obliga-

tion. . . Whether the two aspects can attain their best expression in the same portrayal of a bird is a question much debated. The present exhibition shows, at any rate, that the same artist may be capable of developing both these graphic modes extremely well."

The committee also called attention to the fact that the Frick Art Reference Library at 6 East Seventy-first Street has its collections of reproductions of American, British, Dutch, Flemish, French, German, Spanish and Swedish paintings completely indexed by species of birds.

Social Features:—The social features included a dinner to the Fellows at the Century Club on Monday evening, a smoker at the New York Aquarium on Tuesday evening, the annual dinner on Wednesday evening, and a reception by Mr. and Mrs. Carll Tucker on Thursday afternoon. On Tuesday evening Dr. Charles H. Townsend, the only Associate elected in 1883 present at this meeting, now a Member and Director of the New York Aquarium, celebrated his fifty years of membership in the Union by tendering a reception to the members and greeting them in person. The Aquarium, beautifully lighted, afforded the 300 or more members and guests an opportunity of seeing the extensive collection of native and exotic fishes under unusually favorable circumstances.

Luncheon was served each day in the Flying Bird Hall and on Wednesday, before the opening of the afternoon session, an hour was devoted to inspecting the new Whitney Wing of the Museum which will be occupied by the Department of Birds.

The annual dinner on Wednesday attended by 278 members and guests was held in the Ball Room of the Hotel New Yorker. After the dinner the audience was entertained by a "Professor of Ornithology and his assistant" who passed among the guests identifying certain "specimens" and reading appropriate descriptions of their peculiarities. Then followed a "Fledgling Play," in three acts, entitled "Follow the Swallow," by Alison Barstow Murphy and presented under the direction of the Department of Dramatic Production of Vassar College.

After the close of the formal sessions on Thursday afternoon the members were received by Mr. and Mrs. Carll Tucker at their Park Avenue home and enjoyed the opportunity of meeting socially

at a gathering which will long be remembered as one of the delightful features of the meeting.

Excursions:—An elaborate series of excursions was provided including two on Friday to Hempstead Lake State Park and Jones Beach Sanctuary, Long Island, and to the Zoölogical Park; and three on Saturday—to the Roosevelt Sanctuary at Oyster Bay, Long Island, to Barnegat Bay, N. J., and to Montauk Point, Long Island. Unusually chilly weather on Friday reduced the attendance somewhat but 65 or more members attended the outing to the Jones Beach Sanctuary and reported 82 species of birds. More than 40 members accepted the hospitality of the New York Zoölogical Park at luncheon and were escorted around the Park by Director Blair and his assistants. On Saturday some thirteen members made the trip to Barnegat Bay and reported 94 species of birds. Ten others made the trip to Montauk Point, and were rewarded by the opportunity of seeing many interesting species. The total number of species reported from Jones Beach, Barnegat Bay and Montauk was 117. The trip to the Roosevelt Sanctuary was unfortunately marred by inclement weather and delays en route so that the time at the Sanctuary was very brief. Nearly half of the members in attendance at the meeting remained to take part in one or more of the excursions.

THE PROGRAM.

Papers are arranged in the order in which they were presented at the meeting. Those marked with an asterisk (*) were illustrated by lantern slides; those marked with a dagger(†) were illustrated by motion pictures.

TUESDAY MORNING.

Welcome by President F. Trubee Davison of The American Museum of Natural History.

Response on behalf of the Union by Dr. Alexander Wetmore, Assistant Secretary, Smithsonian Institution.

Roll Call of Fellows and Members, Report of the Business Meeting, Announcement of the Result of Elections.

Report of the Local Committee on Arrangements.

1. Fuertes' Work in 'The Auk.' BAYARD H. CHRISTY, Sewickley, Pa. (20 min.)
2. Losing the Bird Songs. W. E. SAUNDERS, London, Ont. (15 min.)
3. The First Recorded Lists of Birds in the United States. HAROLD C. BRYANT, Office of National Parks, Washington, D. C. (10 min.)

4. Early Summer in the Dismal Swamp of Virginia. J. J. MURRAY, Lexington, Va. (15. min.)
5. A One Day Visit to Kirtland's Warbler. GRANT M. COOK, Youngstown, O. (15 min.)
6. The Washington Monument again a Bird Menace. Miss PHOEBE M. KNAPPEN, Biological Survey, Washington, D. C. (10 min.)
7. The Breeding Bird Population of a Northern Ohio Swamp. JOHN W. ALDRICH, Cleveland Museum of Natural History, Cleveland, O. (15 min.)
8. Further Observations on the Mating Cycle of the Ruffed Grouse and other Birds. ARTHUR A. ALLEN, Cornell University, Ithaca, N. Y. (15 min.)

TUESDAY AFTERNOON.

9. Why Study Bird Courtship? G. KINGSLEY NOBLE, American Museum of Natural History, New York. (10 min.)
10. The Ecology of the Breeding Birds of the Maple-Beech Forest. ARETAS A. SAUNDERS, Fairfield, Conn., Temporary Ornithologist, New York State Museum. (20 min.)
11. *Temperature as an Isolating Factor in the Evolution of the African Savanna Avifauna. W. WEDGWOOD BOWEN, Washington, D. C. (30 min.)
12. *†The Mt. Sangay Labyrinth of Ecuador and its Fauna. ROBERT T. MOORE, Pasadena, Calif. (30 min.)
13. *A Season's Guests. FRANK M. CHAPMAN, American Museum of Natural History, New York. (20 min.)
14. *A Himalayan Walking Trip. CHARLES H. ROGERS, Princeton Museum, Princeton, N. J. (30 min.)

WEDNESDAY MORNING—GENERAL SESSION.

15. The Altitudinal Distribution of Birds in the Virginia Mountains. J. J. MURRAY, Lexington, Va. (15 min.)
16. The Status of Birds in the West Indies considered Extinct or near Extinction. JAMES BOND, Academy of Natural Sciences, Philadelphia, Pa. (15 min.)
17. *The Avifauna of Michigan. JOSSELYN VAN TYNE, University of Michigan, Ann Arbor, Mich. (15 min.)
18. *Results from Banding 58,000 Birds. W. I. LYON, Waukegan, Ill. (25 min.)
19. Personal Recollections of the Passenger Pigeon. (Illustrated by a chart.) Mrs. ETTA S. WILSON, Detroit, Mich. (20 min.)
20. The Adult and Immature Plumages of the Yellow Rail. THOMAS S. ROBERTS, Director, Museum, of the University of Minnesota, Minneapolis, Minn. (10 min.)
21. Stray Sea Birds and Tropical Storm Tracks. ROBERT CUSHMAN

MURPHY, American Museum of Natural History, New York. (20 min.)

22. *The Earliest (1805) Unpublished Drawings of the Flexibility of the Upper Mandible of the Woodcock. HENRY MOUSLEY, McGill University, Montreal, Canada. (15 min.)
23. A Critical Study of the Distribution and Abundance in Migration of *Dendroica castanea* and *D. striata* in the Southeastern States. THOMAS D. BURLEIGH, Biological Survey, Asheville, N. C. (15 min.)
24. Hawk and Owl Legislation. S. PRENTISS BALDWIN, Baldwin Bird Research Laboratory, Cleveland, O. (Read by title.)
25. Bird Life of Mocha Island, Chile. D. S. BULLOCK, Angol, Chile. (Read by title.)
26. *Cycles of Bird Migration. LEONARD W. WING, University of Michigan, Ann Arbor, Mich. (20 min.)

WEDNESDAY MORNING—TECHNICAL SESSION.

27. Physiology and Climate in Migration in Birds. S. CHARLES KENDEIGH, Baldwin Bird Research Laboratory, Cleveland, O. (20 min.)
28. An Enumeration of the Contour Feathers in Passeriform and Related Birds. ALEXANDER WETMORE, Assistant Secretary, Smithsonian Institution, Washington, D. C. (15 min.)
29. *A Ten Year Study of a Bird Population in Central Ohio. LAWRENCE E. HICKS, Ohio State University, Columbus, O. (Read by title.)
30. *Birds of the Big Bend Country, Texas. GEORGE M. SUTTON, Cornell University, Ithaca, N. Y. (15 min.)
31. Notes on *Rhopornis*. Mrs. ELSIE M. B. NAUMBURG, American Museum of Natural History, New York. (10 min.)
32. Further Remarks on *Quiscalus aeneus* × *Quiscalus quiscula*. FRANK M. CHAPMAN, American Museum of Natural History, New York. (15 min.)
33. *Preliminary Experiments on the Effects of Humidity on Pigmentation in the White-throated Sparrow. HERBERT FRIEDMANN, U. S. National Museum, Washington, D. C. (15 min.)
34. The Physiology of Sexual Dimorphism in Birds (A Review). ERNST MAYR, American Museum of Natural History, New York. (25 min.)
35. *Modification of the Sexual Cycles in Birds by Changes in Type, Period and Intensity of Light. T. H. BISSONETTE, Trinity College, Hartford, Conn. (20 min.)

WEDNESDAY AFTERNOON—GENERAL SESSION.

36. *The Cobb Island, Virginia, Bird Reservation Disaster of 1933. OLIN S. PETTINGILL, JR., Bowdoin College, Brunswick, Maine. (15 min.)
37. *A G F A Color Plates—Direct Color Photography for the Naturalist. A. C. SHELTON, Boston, Mass., Manager N. E. Branch A G F A Ansco Corporation. (25 min.)

38. *†Gannet Ledges of Bonaventure. ALFRED M. BAILEY, Director, Chicago Academy of Sciences, Chicago, Ill. (15 min.)
39. *Heredity of Morphological Variations in Birds. L. C. DUNN, Columbia University, New York City. (15 min.)
40. *The Nictitating Membrane in the Water Ouzel. ALEXANDER WETMORE, Assistant Secretary, Smithsonian Institution, Washington, D. C. (15 min.)

WEDNESDAY AFTERNOON—TECHNICAL SESSION.

41. Birds as Material for Elucidating the Processes of Animal Reproduction. OSCAR RIDDLE, Station for Experimental Evolution, Cold Spring Harbor, N. Y. (20 min.)
42. *The Relative Degree of Ossification of the Main Skeletal Elements in Nestling and Adult Barn Owls. FREDERICK M. BAUMGARTNER, Cornell University, Ithaca, N. Y. (10 min.)
43. *Rivers as Distributional Barriers in the Amazon Valley. JOHN T. ZIMMER, American Museum of Natural History, New York. (20 min.)

THURSDAY MORNING—GENERAL SESSION (GAME BIRD SESSION).

44. *The Red Quail of Tennessee. HERBERT FRIEDMANN, U. S. National Museum, Washington, D. C. (10 min.)
45. *Recent Developments in Waterfowl Conservation in Eastern Canada. HARRISON F. LEWIS, National Parks of Canada, Ottawa. (20 min.)
46. The New York State Grouse Survey—Its History, Program and Practical Results. (Illustrated by charts). GARDINER BUMP, Superintendent, Bureau of Game, Conservation Department, Albany, N. Y. (20 min.)
47. The Effect on Grouse of Man as a Hunter and Controller of Predators. (Illustrated by charts.) F. C. EDMINSTER, Conservation Department, Albany, N. Y. (10 min.)
48. A Study of the Fate of 891 Grouse Nests. (Illustrated by charts.) R. W. Darrow, Conservation Department, Albany, N. Y. (10 min.)
49. The Eel-grass Shortage in Relation to Wildfowl. CLARENCE COTTAM, Biological Survey, Washington, D. C. (10 min.)
50. The Present Status of Our Waterfowl. HARRY C. OBERHOLSER, Biological Survey, Washington, D. C. (15 min.)
51. The Mortality and Dispersal of Ducks in an Area of Intensive Shooting. WILLIAM VOGT, Jones Beach State Bird Sanctuary, Wantagh, Long Island. (10 min.)
52. Restocking Water-fowl Marshes with Hand-reared Ducks. FREDERICK C. LINCOLN, Biological Survey, Washington, D. C. (10 min.)
53. *A Summary of Three Years' Observations of the Life History of the American Woodcock. OLIN S. PETTINGILL, JR., Bowdoin College, Brunswick, Maine. (25 min.)

THURSDAY MORNING—LIFE HISTORY SESSION

54. Remarks on the Birds of the Western Panhandle of Oklahoma. GEORGE M. SUTTON, Cornell University, Ithaca, N. Y. (15 min.)
55. Problems in the Study of Song Sparrow Eggs. Mrs. MARGARET M. NICE, Columbus, O. (15 min.)
56. *Preliminary Studies in the Migration of the Eastern Crow. JOHN T. EMLEN, JR., Cornell University, Ithaca, N. Y. (10 min.)
57. *Climate and Magpies. JEAN M. LINSDALE, Museum of Vertebrate Zoology, Berkeley, Calif. (25 min.)
58. *A Preliminary Report on a Study of the Belted Kingfisher. VICTOR E. GOULD, Cornell University, Ithaca, N. Y. (10 min.)
59. *A Study of the Home Life of the Short-billed Marsh Wren (*Cistothorus stellaris*). HENRY MOUSLEY, McGill University, Montreal, Canada. (25 min.)
60. Some Unpublished Letters of J. J. Audubon. WITMER STONE, Academy of Natural Sciences, Philadelphia, Pa. (15 min.)
61. *The Tree Sparrow in Winter and Summer. Miss A. MARGUERITE HEYDWEILLER, Cornell University, Ithaca, N. Y. (25 min.)
62. The Effects of Partial and Complete Gonadectomy on the Social Activity of Male Pigeons. RAY CARPENTER, Yale University, New Haven, Conn. (20 min.)
63. Distributional and Seasonal Movements of the House Sparrow. (Illustrated by blackboard.) JOHN T. NICHOLS, American Museum of Natural History, New York. (15 min.)
64. *Observations on the Nesting and Care of the Young of the Killdeer. Miss EMMA DAVIS, Cornell University, Ithaca, N. Y. (Presented by Arthur A. Allen.) (20 min.)
65. Swainson's Hawk in Washington State. J. HOOPER BOWLES and F. R. DECKER, Tacoma, Wash. (Read by title.)
66. The American Egret on the George Washington Memorial Highway, D. C. ELMER NATHAN GRINNELL, Washington, D. C. (Read by title.)

THURSDAY AFTERNOON

67. *Behavior of an African Broadbill (*Smithornis rufolateralis*). JAMES P. CHAPIN, American Museum of Natural History, New York. (20 min.)
68. †Trumpeter Swans. FRANK R. OASTLER, National Association of Audubon Societies, New York. (15 min.)
69. *†Along Audubon's Labrador Trail. ALFRED M. BAILEY, Director, Chicago Academy of Sciences, Chicago, Ill. (45 min.)
70. *†Song Hunting with a Sound Truck. ARTHUR A. ALLEN, ALBERT R. BRAND and P. P. KELLOGG, Cornell University, Ithaca, N. Y. (25 min.)

ATTENDANCE.

In contrast with the list of 21 members present in 1883 the attendance at the Semi-centennial meeting showed a total of 266, composed of 27 Fellows, 1 Retired Fellow, 1 Corresponding Fellow, 42 Members and about 195 Associates. Among those present were two of the Founders, Charles F. Batchelder and Dr. A. K. Fisher, and three members elected in 1883, two as Active Members, now Fellows, Dr. T. S. Roberts and W. E. Saunders and one as an Associate, Dr. Charles H. Townsend. The Pacific Coast was represented by 4 members from California and 1 from British Columbia, the Provinces of Ontario and Quebec by 16, and the Central States west of the Mississippi by 1 from Iowa, and 2 from Minnesota.

Some 21 colleges and universities, 22 museums and a number of conservation organizations were also represented by one or more of their members.

As a record of the meeting, a group photograph of members was taken on the steps of the Museum.

FELLOWS, MEMBERS AND ASSOCIATES PRESENT (BY STATES).

ALABAMA, 2—*Member*, E. G. Holt, Montgomery; *Associate*, Mrs. M. L. Holt, Montgomery.

CALIFORNIA, 4—*Retired Fellow*, W. K. Fisher, Pacific Grove; *Members*, J. M. Linsdale, Berkeley; R. T. Moore, A. J. Van Rossem, Pasadena.

CONNECTICUT, 8—*Member*, A. A. Saunders, Fairfield; *Associates*, Miss Anna P. Bradley, Mrs. E. A. Hayes, Mrs. F. D. Hubbard, New Haven; Miss Margaret Brooks, Old Greenwich; J. P. Holman, Mrs. Charles A. Nichols, Fairfield; Miss Helen C. Hunt, Washington.

DISTRICT OF COLUMBIA, 22—*Fellows*, A. K. Fisher, Herbert Friedmann, A. H. Howell, H. C. Oberholser, T. S. Palmer, Alexander Wetmore, Washington; *Members*, W. W. Bowen, H. C. Bryant, Miss M. T. Cooke, Clarence Cottam, F. C. Lincoln, E. A. Preble, Washington; *Associates*, C. H. M. Barrett, Mrs. J. S. Elliott, C. W. H. Ellis, Miss Sadia Haskell, I. N. Hoffman, R. B. Horsfall, Miss Phoebe Knappen, Miss Ethel I. Mason, Mrs. T. S. Palmer, R. A. Saxton, Washington.

FLORIDA, 3—*Member*, R. W. Williams, Tallahassee; *Associates*, Joseph C. Howell, J. Adgar Smyth, Orlando.

ILLINOIS, 5—*Fellow*, W. H. Osgood, Chicago; *Members*, A. M. Bailey, La Grange; Rudyerd Boulton, H. B. Conover, Chicago; W. I. Lyon, Waukegan.

IOWA, 1— *Associate*, Charles J. Spiker, New Hampton.

MAINE, 3—*Fellow*, A. O. Gross, Brunswick; *Associates*, Miss Bertha L. Brown, Bangor; O. S. Pettingill, Jr., Brunswick.

MARYLAND, 2—*Associates*, Irving E. Hampe, Baltimore; W. C. Henderson, Chevy Chase.

MASSACHUSETTS, 23—*Fellows*, A. C. Bent, Taunton; Ludlow Griscom, J. L. Peters, Cambridge; C. W. Townsend, Ipswich; *Members*, F. H. Allen, Boston; F. H. Kennard, Newton Centre; J. B. May, Cohasset; *Associates*, A. C. Bagg, Holyoke; Miss Alice M. Bowen, Springfield; L. B. Chapman, Newton Highlands; Mrs. S. H. Dudley, Berlin; Mrs. Owen Durfee, Fall River; Mrs. R. B. Harding, Brookline; Miss J. E. Kloseman, H. E. Maynard, Boston; Miss Heloise Meyer, Lenox; Winthrop Packard, Canton; Harry C. Parker, Worcester; Miss F. M. Pease, Conway; R. T. Peterson, Brookline; C. L. Phillips, Taunton; W. B. Savary, Wareham; Miss Fannie A. Stebbins, Springfield.

MICHIGAN, 10—*Member*, Josselyn Van Tyne, Ann Arbor; *Associates*, G. A. Ammann, W. P. Brodkorb, D. W. Douglass, Ann Arbor; Mrs. A. C. Flood, Bloomfield Hills; Thomas D. Hinshaw, Ann Arbor; W. H. McCracken, Detroit; N. T. Peterson, Battle Creek; Mrs. E. S. Wilson, Detroit; Leonard W. Wing, Ann Arbor.

MINNESOTA, 2—*Fellow*, T. S. Roberts, Minneapolis; *Associate*, Mrs. F. W. Commons, Minneapolis.

NEW HAMPSHIRE, 1—*Fellow*, C. F. Batchelder, Peterborough.

NEW JERSEY, 24—*Members*, C. H. Rogers, Princeton; J. Fletcher Street, Beverly; C. A. Urner, Elizabeth; *Associates*, D. G. Baird, Beverly; Mr. and Mrs. B. S. Bowdish, Desmarest; Mrs. Charles L. Bull, Oradell; Alexander Cairns, Newark; Mrs. F. G. Dunham, Ridgewood; J. L. Edwards, Mrs. G. G. Fry, Charles B. Isham, Montclair; J. M. Johnson, Ridgewood; E. S. Marks, Arlington; Norman McClintock, New Brunswick; Mr. and Mrs. C. K. Nichols, Ridgewood; J. K. Potter, Collingswood; C. B. Riker, South Orange; F. C. Scott, Plainfield; L. L. Walsh, Ridgewood; Paul Wanamaker, Oradell; J. A. Weber, Leonia; F. C. Young, Palmyra.

NEW YORK, 89. NEW YORK CITY—*Fellows*, J. P. Chapin, F. M. Chapman, R. C. Murphy, J. T. Zimmer; *Corresponding Fellow*, Ernst Mayr; *Members*, O. L. Austin, Jr., Mrs. E. M. B. Naumburg, J. T. Nichols, T. Gilbert Pearson.

Associates, R. P. Allen, H. E. Anthony, John H. Baker, W. H. Carr, T. D. Carter, Mrs. F. M. Chapman, Mrs. J. R. Delafield, L. P. Evans, G. Clyde Fisher, W. W. Granger, Miss Margery Greene, A. H. Hadley, E. R. P. Janvrin, F. L. Jaques, J. F. Kuerzi, A. V. S. Lambert, C. W. Leister, F. P. Mathews, R. S. Matthews, E. O. Mellinger, John A. Moore, Mrs. R. C. Murphy, W. W. Naumburg, Miss Theodora Nelson, L. N. Nichols, Nils M. Nilsen, Frank R. Oastler, C. E. O'Brien, M. C. Rich, J. T. Schonnegel, Miss Elizabeth Shull, Mr. and Mrs. Carll Tucker, Miss M. E. Valentine, W. G. Van Name, William H. Wiegmann, R. S. Williams.

BROOKLYN—*Associates*, Charles A. Boehrer, B. P. Brennan, Miss F. C.

Bristol, A. F. Cruickshank, James Cunneen, A. H. Helme, George E. Hix, Meyer Meadow.

ITHACA—*Fellow*, A. A. Allen; *Member*, George M. Sutton; *Associates*, F. M. Baumgartner, Miss Theodora M. Cope, J. T. Emlen, Jr., Victor E. Gould, Miss A. M. Heydweiller, Paul Kellogg, R. H. Lefevre, W. D. Sargent, Phillips B. Street.

STATE-AT-LARGE—*Member*, E. H. Eaton, Geneva; *Associates*, W. C. Adams, Albany; A. D. Amadon, Franklinville; Mrs. M. V. Beals, Elmhurst; A. R. Brand, White Plains; Courtenay Brandreth, Ossining; Verdi Burtch, Branchport; W. B. Cook, White Plains; F. C. Edminster, Newfield; Miss Jennie E. Fox, Palisades; Allen Frost, Raymond G. Guernsey, Poughkeepsie; David E. Harrower, Woodmere; R. A. Johnson, Oneonta; Edmund Platt, Garden City; James Savage, Buffalo; Albert K. Smiley, Jr., Daniel Smiley, Jr., Mohawk Lake; Mrs. H. W. Smith, Islip, Dayton Stoner, Albany; Eugene Swope, Oyster Bay; Charles Vetter, Nyack; Alvin G. Whitney, Albany; Le Roy Wilcox, Speank.

NORTH CAROLINA, 1—*Member*, T. D. Burleigh, Asheville.

OHIO, 8—*Members*, S. C. Kendeigh, Cleveland; Mrs. M. M. Nice, Columbus; *Associates*, G. M. Cook, Youngstown; Miss L. A. Compton, Wooster; William C. Herman, Cincinnati; John W. Aldrich, Herbert Brandt, Cleveland; P. A. Stewart, Leetonia.

PENNSYLVANIA, 31—*Fellows*, Witmer Stone, Philadelphia; W. E. Clyde Todd, Pittsburgh; *Members*, James Bond, Philadelphia; B. H. Christy, Sewickley; R. M. de Schauensee, Devon; Francis Harper, Swarthmore; Wharton Huber, George H. Stuart 3d, Philadelphia; *Associates*, Mrs. Laura W. Abbott, Bristol; John Bartram, West Chester; Mrs. Francis H. Coffin, Scranton; Francis Cope, Jr., Dimock; A. C. Emlen, Philadelphia; Miss Elizabeth B. Forman, Haverford; A. S. Hyde, Richard H. Pough, Philadelphia; P. A. Livingston, Wayne; H. D. McCann, Paoli; William Pepper, Jr., Wyncote; Earle L. Poole, Reading; H. R. Roberts, Villa Nova; A. W. Robinson, Haverford; Conrad Roland, Philadelphia; J. B. Semple, Sewickley; W. J. Serrill, Haverford; Mrs. Witmer Stone, Philadelphia; Miss Ruth Trimble, Pittsburgh; H. T. Underdown, Elkins Park; Charles S. Weiser, York; E. S. Weyl, Philadelphia; Edward Woolman, Haverford.

RHODE ISLAND, 2—*Associates*, Mrs. M. K. Southwick, Bradford; Mrs. H. E. Walter, Providence.

SOUTH CAROLINA, 2—*Member*, Alexander Sprunt, Jr., Charleston; *Associate*, E. A. Simons, Charleston.

VERMONT, 1—*Associate*, W. P. Smith, Wells River.

VIRGINIA, 5—*Fellow*, W. L. McAtee, Cherrydale; *Associates*, M. G. Lewis, Salem; M. S. Curtler, Charlottesville; R. S. Freer, Lynchburg; J. J. Murray, Lexington.

BRITISH COLUMBIA, 1—*Fellow*, Allan Brooks, Okanagan Landing.

ONTARIO, 13—*Fellows*, J. H. Fleming, Toronto; Hoyes Lloyd, Ottawa; W. E. Saunders, London; P. A. Taverner, Ottawa; *Members*, R. M. Anderson, H. F. Lewis, Ottawa; *Associates*, Eli Davis, London; D. Kemp Edwards, Ottawa; F. H. Emery, C. E. Hope, Toronto; Mrs. Wilmot Lloyd, Ottawa; E. G. McDougall, Terence M. Shortt, Toronto.

QUEBEC, 3—*Member*, Henry Mousley, Montreal; *Associates*, J. A. Decarie, Mrs. Harold Hibbert, Montreal.

EDUCATIONAL INSTITUTIONS AND CONSERVATION ORGANIZATIONS REPRESENTED AT THE MEETING

COLLEGES AND UNIVERSITIES, 21—Bowdoin, Brown, California Institute of Technology, Columbia, Cornell, Harvard, Haverford, Hobart, McGill, Ohio State, Princeton, Stanford, Trinity, Yale, University of California, University of Michigan, University of Minnesota, University of Pennsylvania, University of Virginia, University of Toronto, and Western Reserve.

MUSEUMS, 22—Academy of Natural Sciences of Philadelphia, American Museum of Natural History, Brooklyn Museum, California Institute of Technology, Canadian National Museum, Carnegie Museum of Pittsburgh, Charleston Museum, Chicago Academy of Sciences, Cleveland Museum, Everhart Museum of Scranton, Pa., Field Museum, Museum of Comparative Zoölogy, Museum of Vertebrate Zoology, the museums of Cornell, University of Michigan, University of Minnesota and Princeton University, New York State Museum, Public Museum of Reading, Pa., Royal Ontario Museum, U. S. National Museum, and the Worcester Museum of Natural History.

CONSERVATION ORGANIZATIONS—Biological Survey, U. S. Department of Agriculture, Office National Parks, U. S. Department of Interior, Canadian National Parks, Conservation Department of New York, Office of State Ornithologist of Vermont, National Association of Audubon Societies, Audubon Societies of Connecticut, District of Columbia, Massachusetts and New Jersey, the Jones Beach Bird Sanctuary, the Kimball Bird Sanctuary, R. I., the Roosevelt Bird Sanctuary, Oyster Bay, N. Y., and the Scranton Bird Club, Pa.

ELECTION OF OFFICERS.

The election of officers for 1934 resulted as follows: President, J. H. Fleming; Vice-Presidents, A. C. Bent and Herbert Friedmann; Secretary, T. S. Palmer; Treasurer, W. L. McAtee. Members of the Council (in addition to officers and ex-presidents) A. A. Allen, J. P. Chapin, Ruthven Deane, H. C. Oberholser, T. S. Roberts, and P. A. Taverner.

The Council elected Witmer Stone, Editor of 'The Auk'; W. L. McAtee, Business Manager; George Stuart, 3d, C. B. Riker and Edward Norris, Trustees; and A. C. Bent, Ruthven Deane, J. H. Fleming, W. L. McAtee, and T. S. Palmer, members of the Finance Committee.

ELECTION OF FELLOWS, CORRESPONDING FELLOWS, MEMBERS AND ASSOCIATES.

FELLOW—1.

John Todd Zimmer, New York, N. Y.

CORRESPONDING FELLOWS—3.

J. M. Derscheid, Brussels, Belgium.
Franz Groebbels, Hamburg Eggendorf, Germany.
Pontus Palmgren, Helsingfors, Finland.

MEMBERS—9.

Melbourne Armstrong Carriker, Jr., Beachwood, N. J.
Stuart Taylor Danforth, Mayaguez, P. R.
Rodolphe Meyer de Schauensee, Devon, Pa.
James Cowan Greenway, Jr., Cambridge, Mass.
Jean Myron Linsdale, Berkeley, Calif.
Alden Holmes Miller, Berkeley, Calif.
Joseph Dewey Soper, Dept. Interior, Ottawa, Can.
Charles Anderson Urner, Elizabeth, N. J.
Francis Marion Weston, Pensacola, Fla.

ASSOCIATES—167.

The names of Associates who have qualified will appear in 'The Auk' for April, 1934.

REPORT OF THE SECRETARY.

BY T. S. PALMER.

AT the close of its first half century, the Union can count a membership many times as large as that of the Founders who met in New York in 1883. The total membership is approximately 2,000 but resignations and delinquencies may reduce this figure somewhat.

Membership:—The number of members published in the annual directory in the April 'Auk' was 2,025 but since that date deaths, and resignations have reduced the number to 1,993. The following statement shows the figures of the present membership in comparison with that of last year and ten years ago:

	Fellows	*Retired Fellows*	*Honorary Fellows*	*Corresponding Fellows*	*Members*	*Associates*	*Total*
1923	49	5	23	87	95	1393	1652
1932	48	3	25	82	102	1776	2036
1933	49	3	23	89	103	1726	1993

Losses by death included 2 Honorary Fellows, 1 Corresponding Fellow, 2 Members, and 23 Associates, a total of 28. Conditions have been unfavorable for conducting campaigns for membership and the comparatively small number of new members elected last year was inadequate to meet ordinary losses by death and resignation. The number of candidates this year is somewhat larger than last year and it is hoped will be sufficient to offset annual losses.

Activities of Members Abroad:—The long continued depression has naturally had its effect on field work and travel, and comparatively few of our members have been abroad this past year. In tropical America James Bond of Philadelphia has continued his work in the West Indies, Dr. Thomas Barbour has visited Barro Colorado in the Canal Zone and Mrs. M. E. Davidson has recently left for Panama to continue her investigations in the Chiriqui district. In Peru, M. A. Carriker has been at work for some time in connection with his fourth expedition to that interesting region. Several of our members have been in Europe: Mr. C. M. Coker returned last summer after a visit of several months, Mrs. E. M. B. Naumburg has been working in several of the museums last sum-

mer, and A. J. Van Rossem has been examining types and studying the collections in London and Paris. Dr. John C. Phillips attended the International Conference on Protection of Wild Life in Africa which met in London early in November. Dr. Casey Wood after spending the summer in Ceylon has returned to Europe for the winter. In Asia, R. M. deSchauensee has returned from Siam with a rich collection of birds and Dr. Hugh M. Smith, Fisheries Adviser to the Siamese Government, has continued sending collections to the National Museum. Richard Archbold and A. L. Rand are now in the field in British New Guinea. They have recently made a trip to Mt. Albert Edward where some new and interesting birds were secured and at last accounts were at Urunu in the Vanapa Valley. In the South Pacific the Whitney South Sea Expedition has completed its survey of the island of New Britain in the Bismarck Archipelago and expects to take up work next in the Admiralty Islands.

Bibliography:—The activities of the Committee on Biography and Bibliography have been chiefly confined to preparation of notices of deceased members and to building up sets of 'The Auk' in public libraries. In the latter direction the Chairman has devoted most of his spare time to disposing of surplus stock and building up incomplete sets. Nine new libraries have been added to the list of those which now have 'The Auk', namely,

California—Bureau of Education In the Division of Fish and Game, San Francisco.
Connecticut—Connecticut College for Women, New London.
Indiana—University of Notre Dame, Notre Dame.
Maryland—University of Maryland, College Park.
New Jersey—Moorestown Free Library.
Oklahoma—University of Oklahoma at Norman.
Pennsylvania—Haverford College.
China—Lingnan University in Canton and the National Library in Peiping.

During the year 6 sets of 'The Auk' have been practically completed, including those of Brown University, Providence, R. I.; *Buffalo Museum of Science; Carnegie Public Library, Ottawa; *Howard Memorial Library, New Orleans, La.; Northwestern

* Lacking one or two volumes.

University, Evanston, Ill.; and the State Library, Topeka, Kansas. At least 2 sets have been transferred, namely, the H. K. Job set from the State Library in Richmond to the University of Richmond, and the R. O. Morris set from New York to the National Library in Peiping, China.

Papers of the Quebec Meeting:—Of the 55 papers presented at the last annual meeting, comparatively few have thus far been published, 4 in 'The Auk' and 5 elsewhere. The following list of titles is given in the form in which the papers were finally published.

Those which appeared in 'The Auk' were:

No. 9. Christy's Topsell's Fowles of Heauen.

No. 16. Stone's In Memoriam—Charles Wallace Richmond, 1868–1932.

No. 18. Oberholser's Robert Ridgway, 1850–1929, A Memorial Appreciation.

No. 17. Peters' [In Memoriam] Outram Bangs, 1863–1932.

Papers published elsewhere were:

No. 15. Chapman's 'From a Tropical Air Castle: The Courtship of Gould's Manakin,' in *Nat. Hist.*, XXXII, No. 6, pp. 470–480, 1932.

No. 21. Grinnell's 'The Leconte Thrashers of the San Joaquin' [Valley, California], in *The Condor*, XXXV, pp. 107–114, May 15, 1933.

No. 23. Lincoln's 'State Distribution of Returns from Banded Ducks, in *Bird Banding*, III, pp. 140–142, Oct. 1932; IV, pp. 19–32, Jan. 1933; pp. 88–99, Apr. 1933; pp. 132–146, July 1933; and pp. 177–189, Oct. 1933.

No. 24. Murphy's 'The Rothschild Collection of Birds' see 'Moving a Museum,' in *Nat. Hist.*, XXXII, pp. 497–511, 1932.

No. 47. Baldwin's 'Protect Hawks and Owls,' in *Ohio Journ. Sci.*, XXXII, pp. 403–424, 1932.

DECEASED MEMBERS.

ERNST [JOHANN OTTO] HARTERT, Honorary Fellow, aged 74, died at Berlin, Germany, Nov. 11, 1933.

EDUARD DANIEL VAN OORT, Honorary Fellow, died in his 57th year at Leiden, Holland, Sept. 21, 1933.

WILLIAM DAVID KERR MACGILLIVRAY, Corresponding Fellow, died in his 66th year at Broken Hill, N. S. W., June 25, 1933.

HERBERT KEIGHTLEY JOB, Member, died in his 69th year at Delmar, N. Y., June 17, 1933.

JOHN ELIOT THAYER, Member, aged 71, died at Lancaster, Mass., July 22, 1933.

NORMAN JEFCOATE ATKINSON, Associate, died in his 31st year at Ottawa, Can., Nov. 1, 1932.

FREDERICK GILMER BONFILS, Life Associate, aged 72, died at Denver, Colo., Feb. 2, 1933.

NORMAN CRIDDLE, Associate, aged 58, died at Brandon, Man., May 4, 1933.

HENRY WASSON DAVIS, Associate, aged 65, died at Atlantic City, N. J., in 1932.

OWEN DURFEE, Honorary Associate, aged 70, died at Fall River, Mass., Apr. 18, 1933.

JOHN DYMOND, JR.,[1] Associate, aged 65, died at New Orleans, La., Nov. 12, 1932.

DONALD FRASER, Associate, died at Johnstown, N. Y., Dec. 4, 1932.

JOSEPH EDWARD HALLINEN,[2] Associate, died in his 73d year at Hobart, Okla., Feb. 13, 1932.

HAROLD HERRICK, Life Associate, died in his 80th year at Lawrence, L. I., N. Y., May 27, 1933.

WILLIAM JACOB HOLLAND,[3] Associate, aged 84, died at Pittsburgh, Pa., Dec. 13, 1932.

CHRESWELL JOHN HUNT, Associate, aged 53, died at Chicago, Ill., Oct. 18, 1933.

MRS. CHARLES FREDERICK KEYES, Associate, died in her 62d year at Minneapolis, Minn., May 25, 1933.

MRS. ANTHONY RUDOLF KUSER, Associate, aged 62, died at Rome, Italy, Mar. 10, 1932.

ORD MYERS, Associate, died at Dayton, Ohio, Jan. 11, 1933.

JOHN CHRISTOPHER O'CONOR, Life Associate, died in his 86th year at New York, N. Y., Mar. 4, 1933.

GEORGE HENRY PERKINS, Associate, aged 89, died at Burlington, Vt., Sept. 12, 1933.

HARRY LEIGHTON ROLLINS, Associate, aged 72, died at Wellesley, Mass., in 1933.

EDGAR CRANE STILES, Associate, died in his 70th year, at New Haven, Conn., Aug. 29, 1933.

JOHN KERN STRECKER, Associate, aged 57, died at Waco, Tex., Jan. 9, 1933.

ALFRED CROWELL WESTON, Associate, of Needham, Mass., was killed in a hunting accident, Nov. 11, 1933.

MYRON FAYETTE WESTOVER, Associate, aged 73, died at Schenectady, N. Y., Oct. 21, 1933.

EDWARD BRUCE WILLIAMSON, Associate, died in his 56th year, at Ann Arbor, Mich., Feb. 28, 1933.

LEMUEL FOX WOODWARD, Associate, died in his 75th year at Worcester, Mass., Nov. 12, 1931.

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[1] For obituary notice, see 'Auk' L, pp. 260–261.
[2] " " " " " L, p. 261.
[3] " " " " " L, p. 260.

REPORT OF THE COMMITTEE ON BIRD PROTECTION.

THE Committee on Bird Protection has remained active throughout the year. Whenever possible, informal meetings of members were held in Washington, D. C., at which times problems were discussed and plans made. All members of the committee have been kept in touch with pertinent projects by means of correspondence.

Better protection for migratory water-fowl and for hawks and owls continue to be the two greatest needs.

Poor breeding seasons for ducks nesting on the southern prairies of Canada and in the northern tier of states adjacent, caused by drought indicate that the supply of ducks bred in this area does not warrant a continuation of the rate of killing which now obtains. Failure of eel grass off the Atlantic Coast seems to indicate a disastrous decrease for Brant. At the meeting of the advisory Board, Migratory Bird Treaty Act, held in Washington July 10, 1933, a motion to prohibit baiting of wild fowl lost by a very narrow margin. Thereafter a hearing on this subject was held by the Secretary of Agriculture on August 28 at which opposition to an anti-baiting regulation was well organized. Though more drastic regulations were not adopted, the new hunting regulations under the Migratory Bird Treaty Act provide for a reduction of the bag limit from 15 to 12, with not more than 8 in the aggregate of certain species and a reduction of the possession limit from 30 to 24. Meanwhile a possible anti-baiting regulation is held in abeyance for a year during which time a thorough study of the practice of baiting is being made by the United States Biological Survey.

The annual report of The Hawk and Owl Society contains evidence in the form of reports from observers in widely separated areas that hawks are on the decrease and that indiscriminate campaigns are still being waged against these predatory birds. This organization is placing emphasis on education and upon improved laws that will protect beneficial species.

Particular mention should be made of the successful efforts made by S. Prentiss Baldwin, a Life Member of the A. O. U., in securing repeal of the bounty on hawks and owls in Ohio. At

considerable personal expense and with persistent endeavor he engineered the necessary law through the State Legislature.

It is a strange paradox that while some promote organized campaigns against these predatory birds, there are others so convinced of their value that their re-introduction is advocated in western communities as a means of benefiting the farmer because these birds destroy noxious rodents.

As a result of three years study a wild life policy for the National Parks has been proposed by Mr. George Wright and his colleagues that has been accepted and which assures the preservation of national park areas as complete sanctuaries for all forms of animal life. In this policy emphasis is placed on the prime function of the parks to preserve the fauna and flora in its primitive state and, at the same time, provide the people with maximum opportunity for its observation. Park management plans provide that "every species shall be left to carry on its struggle for existence unaided, as being to its greatest ultimate good, unless there is real cause to believe that it will perish if unassisted," that "the rare predators shall be considered special charges of the national parks in proportion that they are persecuted everywhere else"; that "no native predator shall be destroyed on account of its normal utilization of any other park animal excepting if that animal is in immediate danger of extermination, and then only if the predator is not itself a vanishing form," and that "Species predatory upon fish shall be allowed to continue in normal numbers and to share normally in the benefits of fish culture." There is also a clear cut policy on exotics: "Any exotic species which has already become established in a park shall be either eliminated or held to a minimum provided complete eradication is not feasible. The threatening invasion of the parks by other exotics shall be anticipated, and to this end, since it is more than a local problem, encouragement shall be given for national and State coöperation in the creation of a board which will regulate the transplanting of all wild species."

Observers in California report the Condor as a vanishing species. This great bird lives in wild unfrequented regions and while it appears to have protection, there are many adverse factors which make its future problematical. A serious forest fire last fall in Ventura County, the last stronghold of this bird, may have de-

stroyed nesting places and young. It was reported to our committee that after the fire a flock of thirty-seven birds was seen by a local resident in the mountains.

The American Egret, a bird which a few years ago was depleted by the plume hunter, appears to be on the increase. This bird is now reported commonly in widely separated localities in the eastern United States both coastwise and interiorally. Along the Pacific Coast also, this bird is now commonly seen in many marshy areas.

Outside of the continued warfare against hawks and owls there have been few orgainzed campaigns of destruction. Except as has been noted we believe bird protection has prospered during the past year. We have no new recommendations but do express allegiance to those heretofore proposed.

(Signed) H. C. BRYANT, *Chairman* HOYES LLOYD
F. M. BAILEY E. A. PREBLE
A. C. BENT W. E. SAUNDERS
B. H. CHRISTY

GENERAL NOTES.

An Influx of Leach's Petrels.—[The great of August 21–23, 1933, which reached hurricane proportions along the Atlantic seaboard brought numbers of Leach's Petrels (*Oceanodroma leucorhoa*) from the open ocean to the sea beaches and carried many to points far inland. Some Wilson's Petrels, a single Madeira Petrel, Bonaparte's and other Gulls, a Brown Pelican and some Phalaropes were also blown inland as will be seen from notes which follow. The records of Leach's Petrel however are so numerous that it seems best to combine them in a single note giving each observer due credit. The writer was himself at Cape May, N. J., where the storm was perhaps more severe than elsewhere and these Petrels were seen in numbers all along the ocean front and flying over the inundated streets and driveways. On August 25 two were still present on the shore of Delaware Bay at Cape May Point remaining within twenty feet of the land for an hour or more apparently feeding on something on the surface of the water.—Ed.]

On August 25 two were seen flying low over the waters of Barnegat Bay six miles south of Seaside Park, N. J., and I was informed by Mrs. H. W. Cannon that she saw from 35 to 40 on the Bay at Seaside Park on August 24.—Charles H. Rogers, *Princeton Museum of Zoology, Princeton, N. J.*

One was found dead on Wissahickon Creek, Fairmount Park, Philadelphia, on August 25, and is now in the local collection of the Academy of Natural Sciences.—Harry Lance, *Philadelphia, Pa.*

On August 24 ten Leach's Petrels were present on Lake Ontelaunee, six miles north of Reading, Pa., five on a smaller pond south of the city and another captured in a crippled condition in a garage. The next day two others were picked up at Hamburg and East Reading but none were to be found on the lake. On the 23rd during the height of the storm the caretaker saw upwards of one hundred on the lake.—Earl L. Poole, *Reading Museum, Reading, Pa.*

A note in the Lancaster, Pa., "Intelligencer" states that a specimen was found on the grounds of Franklin and Marshall College in that city by Emil Rohrer, on August 25.—Samuel H. Brown, *Lancaster, Pa.*

On August 24 thirty-five were seen on the Susquehanna River at Harrisburg, Pa., and three picked up dead. A flock of small birds apparently Northern Phalaropes (*Lobipes lobatus*), 27 Bonaparte's Gulls (*Larus philadelphia*) and a Laughing Gull (*Larus atricilla*) were also seen on the river. The next morning only one Petrel and three Bonaparte's Gulls remained.—Harold B. Wood, M.D. and Merrill Wood, *Harrisburg, Pa.*

About 6:30 on the morning of August 25 one of these birds was seen on the west side of Catlin Lake, near Newcomb, N. Y., in the central Adirondacks. It was not shy and I was able to view it at close range with binoculars. It was feeding on pieces of fish that lay about but when it tried to move from one piece to the next it would fall over on its side and use

its wings to steady and support itself. I could see no dangling feet when it flew and apparently it had lost them. It remained in the vicinity for about ten hours.—CHARLES E. JOHNSON, *Roosevelt Wild Life Station, Syracuse, N. Y.*

A couple of weeks ago [i. e. about August 25—Ed.] we had a Petrel (probably Leach's) here. My son and two men declare that they could approach to within ten feet of it.—CHARLES A. GIANINI, *Poland, N. Y.*

On the afternoon of August 25, a Leach's Petrel was picked up alive in a door-yard on one of the main streets of Bennington, Vt., and on the morning of the same day a Herring Gull (*Larus argentatus smithsonianus*) was observed on a small mill pond located within the village limits.—LUCRETIUS H. ROSS, M.D., *Bennington, Vt.*

On the morning of August 24 Mrs. George N. Morey, of Chevy Chase, D. C., found a Leach's Petrel at a basement window of her home completely exhausted. She immediately made efforts at resuscitation starting force-feeding with ground chicken lungs. That evening the bird's activity indicated that her efforts in its behalf might be successful but the following day the bird died. Upon dissection I found a small bruised area at the elbow of the right wing and a rupture of the small intestine. The body feathers show progress of molt but the flight feathers are in excellent condition although the greater wing coverts show considerable wear.—FREDERICK C. LINCOLN, *Biological Survey, Washington, D. C.*

The Breeding Habits and Breeding Range of Leach's Petrel.—The publication[1] of the possibility of Leach's Petrel (*Oceanodroma leucorrhoa*) breeding at Penikese Island, Mass. (41° 27′ N., 70° 55′ W.), is of much interest. That this bird, so tenaciously local in its breeding grounds, according to what is known of its history, should show a colonizing propensity beyond the limits of its ancient domain, affords a gleam of hope to conservationists who may have had fears for its future.

Nesting in stone walls is a common habit of Leach's Petrel on the coast of Maine. The bird occupies the landward side of sea walls of angular rocks, or small boulders, driven above the ordinary thrust of stormy seas, or the broad based stone walls laid up for fences.

Nests concealed in the depths of these piles of bare stones afford no outward visible sign of their occupation by the birds, a fact which renders a determination of the numbers of nests in colonies where these retreats are available very difficult. Nor has the subject escaped the notice of writers on birds. E. A. Samuels mentioned this habit in his 'Ornithology and Oölogy of New England,' (1867, p. 553) and carried the statement forward through all of the editions of this work, down to that of 1880. The present writer has mentioned the same habit, pointing out a number of definite localities.[2] The requirement of the bird appears to be a darkened passage leading to a suitable shelf or base for its nest. I once found a nest

[1] 1933, Auk, L, pp. 426–427.
[2] 1925, Maine Nat. II, p. 47.

of this Petrel, containing a young bird, within the base of a hollow prostrate log, cast up well above high water mark on the shore of Matinicus Rock; the log, stranded upon small boulders, rested a foot or more above the ground. The practice of nesting in hollow logs at the Nova Scotian Seal Islands is mentioned by J. H. Langille.[1] When ashore at night this bird utters at least five distinct notes, which appear to express as many emotions.[2]

It has been pointed out that the sense of smell,[3] dull as it is in the human species, affords an excellent means of determining whether or not a burrow or cavity is tenanted by the Petrel. I have always employed this method when visiting small colonies, where the birds may be present one year and perhaps absent the next, and have never been deceived by the preliminary evidence rendered by this avatism.

Had the gentlemen made use of this sense at Penikese their argument might have been much strengthened.

The statement that "The known breeding range of Leach's Petrel extends no farther south than Matinicus Rock" may or may not have been uttered in accordance with a rather common practice among writers on birds, of calling eastern Maine "northern Maine," but in any case, Matinicus Rock, 43° 47′ N., 68° 51′ W., is neither the southern nor the western known limit of the bird's breeding range in the western Atlantic. The southern limit of that range is not in Maine, but in Nova Scotia, probably at the Seal Islands off Cape Sable, about 43° 24′ N., 66° 01′ W., while the western limit is in Casco Bay, Maine,[4] about 43° 39′ N., 70° 07′ W. The Casco Bay stations are eight minutes south of the latitude of Matinicus Rock.

It is plain that this does not take into consideration the possibility of the bird breeding at Penikese Island, which if confirmed will extend the range both south and west; south more than a degree of latitude and west about forty-eight minutes of longitude.

It seems to the writer possible that the relatively recent extension of the breeding range of that aggressive pioneer, the Herring Gull, southwestward, followed as this has been, in some degree, by other northern breeding sea birds, may have led the way for this Petrel to follow. We would not be understood to imply that the two species are close associates; when we became acquainted with Leach's Petrel half a century ago, and until its breeding places were invaded by the Herring Gull, about 1911, the Petrel was the associate of Terns, on the outer fringe of islands, but within the range of the Herring Gull.—Arthur H. Norton, *Museum of Natural History, Portland, Maine.*

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[1] 1884, Our Birds in their Haunts, 539.

[2] 1925, Maine Natr. II, pp. 53–54.

[3] 1884, Hist. N. Am. Bds. Water Birds II, p. 410.

[4] 1871, Bolles, Bull. Essex Inst. III, p. 114; 1874, Benner, Forest & Str. II, p. 133; 1877, Brown, Bull. Nutt. Orn. Cl. II, p. 27; 1902, Kendall, Osprey, N. S., I, p. 7. My unpublished records bring the subject forward to present time.

The Madeira Petrel in Ontario.—On August 28, 1933, a Petrel living but in a helpless condition, was picked up by some boys on the Rideau River within the limits of the city of Ottawa, Ontario. It was kept over night and found dead in the morning when it was brought to the National Museum of Canada where it now remains. The boys thought that they had seen several similar birds flying about the river semi-helplessly a day or so previous but, though the river and its banks were searched, no confirmatory evidence could be obtained. The bird proved to be *Oceanodroma castro*, identity confirmed by Dr. R. C. Murphy who pronounced it perfectly typical of the species, the first record of *castro* for Canada.—P. A. Taverner, *National Museum of Canada, Ottawa, Ontario.*

A New Petrel for North America.—During the late summer of 1933 a Petrel, new to the fauna of North America, came into my possession, due to the kindness of the director of the local zoo. As there was more than a slight doubt as to the species, I sent the skin to Dr. R. C. Murphy, of the American Museum of Natural History, New York, and his letter follows:

"Your petrel is an absolutely typical example of *Pterodroma cookii orientalis* Murphy. I have compared it with our large series of this form and related subspecies. Its size, the scalation of the dorsal feathers, and the length, slenderness and smoothness of the bill fix the identification beyond a doubt. The race is described in my revision of *Pterodroma cookii* (Amer. Mus. Novit., No. 370, 1929, pp. 5–7 and 17). The type locality is 200 miles off Callao, Peru. It is known to range between 40 and 400 miles off the west coast of South America, and between latitudes 12 and 34 S. The breeding grounds are still undiscovered and a different race nests on Juan Fernandez and other islands in the region."

Tracing the specimen back to its starting point, I found that it had been taken on the coast of Alaska, by some of the crew of the U. S. S. Kingfisher, while engaged in survey work along the Aleutian Islands. A letter to the commanding officer of that ship furnishes the further data: "In reply to your recent inquiry concerning the sea bird presented to the San Diego Zoo by a member of the crew of this vessel, you are advised that the bird was one of two which alighted on the ship during a blow while operating in the vicinity of Adak Island, Alaska, during the first week of August. The second bird did not live." The specimen is now No. 49700 Coll. Dr. Louis B. Bishop, of Pasadena, Calif.—A. W. Anthony, *Natl. Hist. Mus. Balboa Park, San Diego, Calif.*

Brown Pelican in Massachusetts.—On the afternoon of August 28, 1933, I saw an adult Brown Pelican (*Pelecanus o. occidentalis*) in Hospital Cove near Cataumet on Buzzards Bay. We approached in a small sail boat to within thirty or forty yards before he rose from the water, so the distinguishing characteristics were plainly seen. He remained two days and was often approached. He may have been exhausted, as he arrived at the end of a severe four-days storm.—Walter D. Brooks, *Milton, Massachusetts.*

Florida Cormorant from Dismal Swamp, Virginia. A Correction.—A female Double-crested Cormorant (*Phalacrocorax a. auritus*), No. 15998 in the collection of the University of Iowa Museum of Natural History, was secured by Dr. Paul Bartsch in the Dismal Swamp, Virginia, June 18, 1897. The wing measures 12.10 inches and the exposed culmen measures 2.32 inches. This specimen was recently identified by Dr. H. C. Oberholser.

In an account of the birds found in the Dismal Swamp during trips made in 1897 and 1899 (Osprey, V, Nos. 3, 4, and 5, 1901) Bartsch recorded the Cormorant found there as *P. a. floridanus*, probably on the basis of this specimen.

Dr. J. J. Murray, who has recently revised the list of Virginia birds, wrote me that this record by Bartsch was the only Virginia reference to *P. a. floridanus* and asked me to publish this correction.—PHILIP A. DUMONT, *Des Moines, Iowa.*

Little Blue Heron (Florida caerulea caerulea) in Central New York.—On August 4 and again on August 12, 1933, I saw a Little Blue Heron in Cicero Swamp near Clay, N. Y., ten miles north of Syracuse. Both observations were made about 6:30 in the evening. Cicero Swamp is a marsh partially timbered and part cat-tails covering several thousand acres. The bird was flushed each time from beside a small pool among the cat-tails, and was observed at a distance of not more than five rods with 8x glasses.—CHAS. J. SPIKER, *State College of Forestry, Syracuse, N. Y.*

American Egrets in Michigan. Southern Michigan had an invasion of American Egrets (*Casmerodius albus egretta*) during the fall of 1933, nearly every pond, lake or stream with lily pads and shallow water having from one to ten or more pairs of them which is something new for this territory. On August 6 a pair camped near my cottage at Portage Lake, Mich. Ten days later they were joined by eight others when they retired to a more secluded spot at the other end of the lake. By September 5 the group had increased to fifteen. Similar reports have reached me from several nearby localities. I had seen none of these birds until two years ago and never so many as this.—EDITH K. FRY, *Jackson, Mich.*

Second Broods in the Mallard Duck.—Data of varying completeness on about two hundred Iowa wild Duck nests for the 1932 and 1933 breeding seasons, gathered by the Iowa State College wild life research staff, plus information on nearly as many more from other mid-west states and covering a greater period of years, give no indications of the occurrence of second broods under indubitably natural conditions. It is true that wild ducklings of different ages are often seen and "flappers" are now and then reported early in the fall; these, however, on the basis of evidence at hand, may be far more convincingly explained in terms of late nesting starts and successful second attempts after earlier egg clutches had been abandoned or destroyed.

Many examples are to be had, nevertheless, of semi-domesticated Mallards of wild stock bringing off second broods. Dr. J. G. Dickson, of the University of Wisconsin, recently pointed out to me that two of the Mallard hens belonging to the flock resident the year around at the Nakoma Spring pond, Madison, had raised their first broods to practically adult size and were again on the water with very small ducklings July 10, 1933. In these particular instances he was able to keep track of the identity of the two hens through distinctive plumage peculiarities. Living adjacent to the Nakoma Spring, Dickson has had the Ducks under his care and observation from the inception of the flock.

The original birds of this flock were hatched from wild eggs in 1927 by Professor J. G. Halpin of the University Poultry Department. Fall migrants soon joined this nucleus and stayed, finding safe quarters with food and open water all winter. Fifty to one hundred and seventy five Ducks have habitually frequented the place the past four years. Birds were given unmolested access to the grounds and were permitted to lead lives as independent as they wished. A very few call Ducks (at least two were known to breed), kept with the flock in 1931 and 1932, provided the only detected chance for any contamination of the wild blood, aside from individuals of unknown origin which were always coming in from the wild.

Of course, we have scant means of ascertaining the genetic composition of wild Mallard populations, especially in view of the propensity of wild birds to mate with barn-yard Ducks, and the undoubted assimilation of a certain amount of part-tame hybrids by wild flocks. A one-eyed Mallard shown me by J. M. Eheim, Hutchinson, Minn., observed to be incubating a clutch of eggs on August 19, 1932, after having raised a brood that season, was a bird which had flown in from the outside to station itself in the vicinity of a lake-side farmyard; where such birds as these come from we can hardly say.

Dickson's notes give as earliest laying dates for the Nakoma birds, April 12, 1929; April 4, 1931; April 10, 1932; March 4, 1933. This, to be sure, may not tell us everything as to the beginning of substantial reproductive effort, but I recall having remarked, during three years personal stay at the Dickson residence (1929–32), that Duck nests were scattered all over the grounds a month or more in advance of the time that nests of birds living wholly in the wild could be expected to appear. Dickson believes that there has been, since the establishment of the flock, a progressive annual advancement of the main breeding season.

Logan J. Bennett, who handles the major part of the waterfowl studies for Iowa State College, found that the first of the forty four wild Mallard nests under observation in 1933, at Ruthven, Iowa (latitude similar to Madison, Wis.), had eggs about April 28, and that the laying season had not gained appreciable momentum prior to the second week of May.

In so far as the breeding season of fully wild Mallard populations, as dated, runs approximately six weeks behind that of the man-pampered

birds which have furnished the conspicuous examples of second broods, it seems that such fecundity in nature must be of quite rare incidence.—PAUL L. ERRINGTON, *Dept. of Zoology-Entomology, Iowa State College, Ames, Iowa.*

Goshawk Breeding in Cheshire County, New Hampshire.—Glover M. Allen in his 'Birds of New Hampshire,' speaks of the Goshawk (*Astur a. atricapillus*) as: "—probably a regular breeder . . . from the White Mountains northward," and gives two breeding records south of the White Mountain region. At Dunbarton (1897) a female was shot on her nest; and on July 21, 1902, at Alstead (Cheshire County) a nest with two nearly full grown young was discovered;—"the nest was placed in a small pine at a height of thirty-five or forty feet." (See Auk, 1903, pp. 211–212.)

Since I can nowhere find a later record, the following nesting at Marleboro may be considered as the second recorded for the county:

While on a fishing trip along a stream two miles back of the Marleboro granite quarry on the Mount Monadnock road (Marleboro to Jaffrey) Mr. J. W. Smith was attacked by a Hawk and fought it off with the creel and butt end of his fishing pole. He returned later—May 24, 1933—with a gun, and, when the Hawk again attacked him as before, shot the bird. It proved to be the female Goshawk; and the nest was easily located thirty feet up in a pine tree. The three young, still in the white natal down and probably about two weeks old, were collected. The birds and nest were taken to Mr. Luman Nelson and were preserved in a habitat group which may be seen at his bird museum at Winchester.—LEWIS O. SHELLEY, *East Westmoreland, N. H.*

The Golden Eagle in North Carolina.—In the 'Birds of North Carolina' by T. Gilbert Pearson and C. S. and H. H. Brimley, the Golden Eagle (*Aquila chrysaëtos canadensis*) is given as occurring in the mountainous regions of the state, and as being rare in the eastern portion.

There are very few definite records of this bird for the state, and as it is much less common now than formerly, definite records are of increasing interest. On September 30, 1933, on Pine Mountain about seven miles from Asheville at an altitude of about 3,500 feet we twice saw one of these Eagles, presumably the same bird. It was seen first early in the morning, and again early in the afternoon at a place about a mile distant.—AUSTIN H. AND LEILA F. CLARK, *Washington, D. C.*

Yellow Rail at Battle Creek, Calhoun Co., Mich.—A male Yellow Rail (*Coturnicops noveboracensis*) was flushed by a group of bird students in the Convis Township Marsh twelve miles east of Battle Creek, Michigan, April 30, 1933. The white wing patches were easily observed. Later after several minutes of extensive search C. J. Henry saw it squatting on the ground, almost at his feet and we reached down and picked it up. The bird is now in my collection.—LAWRENCE H. WALKINSHAW, *Battle Creek, Michigan.*

The Dowitcher, A New Bird for Kansas.—On July 7, 1933, while on a fossil-collecting trip in the north-central part of the state, I had the pleasure of examining a group of birds collected and mounted by Mr. Charles Heine, a farmer living near Lucas, Russell Co., Kansas. Among them was a Dowitcher (*Limnodromus griseus griseus*), in spring plumage. This bird was taken in a low, marshy area in Mr. Heine's pasture on April 26, 1919. It was with a flock of Wilson's Snipe when taken.

So far as I have been able to learn, this is the first recorded occurrence of the Dowitcher in Kansas. The Long-billed Dowitcher (*Limnodromus griseus scolopaceus*) has been taken several times in eastern Kansas, and in Missouri, as well. Since these birds commonly migrate in the Mississippi Valley, it is strange that they have not been recorded from Kansas long before this. As a further check the specimen was sent to the U. S. National Museum, where Dr. Herbert Friedmann confirmed the identification.

In addition to the Dowitcher, Mr. Heine's collection contained two other specimens of note, a Least Bittern (*Ixobrychus exilis exilis*), and a Cinnamon Teal (*Querquedula cyanoptera*). The former was killed with a long cane fishing pole at a small pond which had no vegetation or place of concealment for a bird. The presence of this species on the short-grass prairie of Russell County is unusual, to say the least.

I wish to express my appreciation to Mr. C. D. Bunker, Assistant Curator in Charge of the Museum of Birds and Mammals, for permission to report this record. W. S. Long, *Museum of Birds and Mammals, Lawrence, Kansas.*

Dowitcher in Michigan.—On May 30, 1928, I saw my first Dowitcher (*Limnodromus g. griseus*) in Michigan and on August 20, 1933, I observed my first pair in fall plumage at the same place, Portage Lake, Jackson Co. They were in company with White-rumped, and Pectoral Sandpipers, and other species of waders. I could drift in my canoe to within six or eight feet of them and study them in detail. The Dowitcher does not seem at all common in this state.—Edith K. Fry, *Jackson, Mich.*

The Red Phalarope at Martha's Vineyard Island, Mass.—On May 9, 1933, I found an adult male of this species dead on the lawn of Ocean Park, Oak Bluffs, Mass. There was a rather severe northeast storm the night of May 6 and 7, and the bird had evidently been driven in from the sea and perished. Doubtless many of these birds have been forced to the shores of this island, as it is subject to severe easterly storms, but I have found no previous record.—Charles L. Phillips, *Taunton, Mass.*

Northern Phalarope and Baird's Sandpiper in Berkshire Co., Mass.—On August 20, 1933, I visited the Pittsfield sewer beds with S. Waldo Bailey. We were much surprised to come upon three Northern Phalaropes (*Lobipes lobatus*) swimming about in one of the beds. We

studied them with 7 and 8 power glasses at a distance of thirty feet and noticed particularly their sharp-pointed, all black bills. All three birds were in winter plumage.

This is the only record of any sort for this species in the Berkshires.

On August 30, Samuel A. Eliot, Jr., of Northampton, saw one Northern Phalarope at the Sewer Beds and on the same day identified a Baird's Sandpiper (*Pisobia bairdi*) in a flock of some twenty-five Least and Semipalmated Sandpipers. He was able to get within twenty feet and study it with glasses in bright sunlight. The bird was distinctly larger than the others. Mr. Eliot saw it fly several times and noticed that its outer tail-feathers were brownish gray and that its upper middle tail-coverts were fuscous.

I saw this bird on the 31st and noted the same field marks as did Mr. Eliot. I thought that the scaled appearance of the back and the buffy wash on the head, neck and breast were especially conspicuous.

On September 17, S. Morris Pell saw three Baird's Sandpipers in the same place and on the following day Stanley Clarke and I saw one.

These appear to be the only records for western New England north of the Connecticut coast.—G. Bartlett Hendricks, *The Berkshire Museum, Pittsfield, Massachusetts.*

Northern Phalarope Collected near Columbus, Ohio.—On August 28, 1933, the writer collected a female Northern Phalarope (*Lobipes lobatus*) at O'Shaughnessy Reservoir, north of Columbus, Ohio. The bird was engaged in its peculiar whirligig movements while feeding in shallow water among a flock of about 200 shore-birds. The skin is now in the Ohio State Museum. Except for a male of the species collected by H. S. Peters on September 13, 1924, at Bay Point on Lake Erie, this is the first known collection of the Northern Phalarope in Ohio since 1874 by Dr. Jasper. It is a very rare species in the inland portions of Ohio.—Lawrence E. Hicks, *Department of Botany, Ohio State University, Columbus, Ohio.*

A Melanistic Laughing Gull at Pensacola, Florida.—On October 1, 1932, a beautiful, melanistic specimen of the Laughing Gull (*Larus atricilla*) was seen over Pensacola Bay—a dark bird with a pale head that brought to mind pictures of the Noddy Tern. Fortunately, the presence of food attracted this and a number of normally colored Laughing Gulls very near to the bridge on which I was standing and I was able to look them over for some minutes with 6x glasses at distances sometimes as short as fifteen feet. Comparisons of size, shape and actions were readily made, and showed conclusively that the dark bird was truly a Laughing Gull. The forehead and top of the head were almost white, shading rapidly and evenly through gray to dark fuscous on the nape and throat. The only other light markings anywhere on the bird were the white tips on the secondaries, as in normal specimens. The rest of the plumage was almost solid fuscous, so dark that the subterminal black band on the tail was all

but masked. From the presence of this subterminal band, I concluded that the bird was an immature in first winter plumage.—Francis M. Weston, *Bldg. 45, U. S. Naval Air Station, Pensacola, Fla.*[1]

Gull Notes from the New Hampshire and Maine Coasts.[1]—Having seen the Ring-billed Gull (*Larus delawarensis*) in New Hampshire waters in July, 1932, its presence in July, 1933 is of interest. When we were at Kittery Point wharf, Maine, on July 20, Mr. J. P. Melzer and I had occasion to watch six Ring-billed Gulls in year-old plumage, in company with adults and first and second year Herring Gulls, feeding at low tide near the wharf. Again on the 21st we observed them there, some dozen birds, each in mottled plumage with the black subterminal band on the tail. On the 26th when returning from the Shoals to the Government wharf at Portsmouth, four Ring-bills were noted there, and at Duck Island, Isles of Shoals, on both the 20th and 25th, several Ring-bills joined the Herring Gulls in showing displeasure at our intrusion. These birds were in adult plumage but had a very narrow black subterminal band on the tail that in two instances was faded to a dirty brown.

The increase from three (and possibly seven) pairs of Black-backs (*Larus marinus*) breeding at Duck Island in 1928, to twelve and possibly more pairs in 1933, is gratifying. This larger Gull, I determined, is not nesting on Duck Island itself but prefers, instead, the smaller rocks clustered about the island—Shag, Mingo and Eastern Rocks. Unlike the young Herring Gulls which scatter more or less from the nest and each other, young Black-backs were found to linger in the vicinity of the nest while the broods kept in close company; true even of four fully-grown birds well able to fly.—Lewis O. Shelley, *East Westmoreland*, N. H.

Additional 1932 New Hampshire Dovekie Records.—Since the publication "The Dovekie Influx of 1932," by Murphy and Vogt in the July, 1933 'Auk,' some unpublished records have come to my attention.

Mr. James P. Melzer tells me he received a Dovekie (*Alle alle*) for mounting which was picked up in November on a main street in Nashua, N. H. He also, long after the storm, picked up a badly decomposed bird washed up on Hampton Beach.

Mr. Luman Nelson tells me he was at the New Hampshire coast when the storm of November 9 struck and when the Dovekie flight began in the afternoon. Out of the many picked up along the Rye Beach section, the next morning he selected eight which he later preserved; their stomachs were empty. He says that literally hundreds came to grief along the New Hampshire coast.—Lewis O. Shelley, *East Westmoreland, N. H.*

Large Sets of Ground Dove Eggs.—On April 29, 1925 I found a nest of the Ground Dove (*Columbigallina passerina passerina*) among briars, two feet above the ground. As I approached the Dove flew off

[1] Published with aid of the Dwight Memorial Fund.

and went directly to a nearby tree without feigning lameness like they usually do. Turning my attention to the nest I was surprised to see that it contained three eggs. The nest was composed of fine grass and Spanish moss. This made the second set of three eggs of the Ground Dove that I had found, the other being in a similar situation. Both were located inside the city limits of Orlando, Florida. WRAY H. NICHOLSON, *Orlando, Florida.*

The Black Swift (Nephoecetes niger niger) in St. Croix.—During a few hours spent ashore at Frederiksted, St. Croix, on July 23, 1933 the writer observed at close range a Black Swift (*Nephoecetes niger niger*) hawking for insects in the company of about twenty Caribbean Martins (*Progne dominicensis*). There is no previous record of the occurrence of this or any other Swift in St. Croix, or, in fact, in any of the Virgin Islands.—STUART T. DANFORTH, *University of Puerto Rico, Mayagüez, Puerto Rico.*

Speed of the Ruby-throated Hummingbird's Flight.—On September 2, 1933, I was making a fast trip by auto from Washington to the Allegheny Mountains in Virginia beyond Harrisonburg. Not far out of Warrenton we had settled down to a speed of fifty miles per hour on highway 211, when a Ruby-throated Hummingbird (*Archilochus colubris*) suddenly paralleled our course along the side of the roadway as if deliberately racing with us. It actually passed us for a short distance keeping straight with our course, then swerved away. Its speed appeared to be somewhere between 55–60 miles per hour. Since the bird did not seem to be frightened, for we were not chasing it, this probably represented a normal flight sally.—H. A. ALLARD, *U. S. Dept. of Agriculture, Washington, D. C.*

Food of the Gila Woodpecker (Centurus uropygialis uropygialis).—In the Tucson, Arizona, area a gall-insect (*Pachypsylla venusta*) frequently attacks the leaves of the hackberry tree (*Celtis reticulata*). The galls form on the leaf petiole, becoming from a quarter to half an inch in diameter. During the winter the outer shell hardens like a nut.

I have often seen the Gila Woodpeckers tear the galls loose from the twigs and, flying to a fence post, proceed to chisel out the contents. The hard gall is wedged into a crack on the post and then opened by repeated hammering. Around the base of one fence post I counted nearly 300 empty shells. Sometimes cracks in nearby trees are used. At one time five of these Woodpeckers were seen in a single tree, all of them feeding on the galls.

According to Dayton (Important Western Browse Plants, U. S. Dept. Agr. Misc. Publ., no. 101, 1931, p. 25) a related species of hackberry (*C. douglasii*) is also heavily galled by a Pachypsylla. This plant, which is found in the northwestern United States, is outside the range of the Gila

Woodpecker. It would be interesting to know if some other species of Woodpecker is doing the control work in this area.

I am indebted to Dr. E. D. Ball and Dr. L. P. Wehrle of the University of Arizona for the identification of this gall insect.—A. H. Anderson, *Route 2, Box 105C, Tucson, Arizona.*

A Family of Arkansas Kingbirds Near Toledo, Ohio.—A sight record for the Arkansas Kingbird (*Tyrannus verticalis*) in Ohio was published in 'The Auk,' January, 1931, p. 123. This bird, observed near Little Cedar Point, Lucas County, by Miss Marjorie Dean and the writer on September 14, 1930, constituted what was probably the first record for this species in Ohio. On the strength of this observation the Arkansas Kingbird was included as a sight record in the 'Revised List of Ohio Birds' compiled by Milton B. Trautman and published April, 1932, by the Ohio Division of Conservation.

On July 29, 1933, some three miles east of the location of the sight record mentioned above I found a family of Arkansas Kingbirds consisting of one adult and three young at a point one and one-half miles north of the village of Bono, Jerusalem Township, Lucas County, Ohio. Two of the young, a male and a female, were collected. Although both of these birds were well able to fly, all the tail feathers and all but two or three of the primaries were still more than one-fourth sheathed. The condition of these feathers and general lack of development pointed to the conclusion that the birds had been out of the nest only a short time.

The next day, July 30, Milton B. Trautman of Columbus, Ohio, and my brother, Bernard R. Campbell, returned to the same place and found only an adult which was collected by Mr. Trautman. This bird proved to be a female in very worn plumage. The fourth bird was not seen again.

The three skins, prepared by Bernard R. Campbell, were presented to the Ohio State Museum at Columbus, Ohio. A comparison of measurements of adult and young birds is as follows: adult wing—124 mm., juvenile wing (two birds)—108 mm. and 103 mm.; adult tail—81 mm., juvenile tail (two birds)—73 mm. and 68 mm.

The situation in which this group of birds was found was strikingly similar to that described by Dr. Roberts (Birds of Minnesota, Vol. II, p. 10) as a characteristic nesting habitat of this species. The size of the young birds and the condition of their plumage, the fact that the family group was apparently still intact, and the attachment to this locality shown by the female, make it appear probable that the birds nested in this locality.—Lewis W. Campbell, *304 Fearing Boulevard, Toledo, Ohio.*

Rough-winged Swallow in Bristol County, Massachusetts.—On May 29, 1932, Mr. Ludlow Griscom and I found two Rough-winged Swallows (*Stelgidopteryx ruficollis serripennis*) which we judged to be a mated pair about a small pond in the town of Dartmouth, Massachusetts. A year later, May 28, 1933, Mr. A. C. Bent, Dr. W. M. Tyler, Mr. E. B.

Church and I found two Rough-winged Swallows at the same place. A search of the immediate neighborhood failed to reveal a nesting-site, and on a later visit to the locality, June 25, we failed to find the birds at all. The evidence of breeding is, of course, very far from conclusive, but the presence of a pair two years in succession at the same spot seems worth recording. Mr. Bent had never before seen the Rough-winged Swallow in his home county of Bristol, and Forbush (Birds of Massachusetts) gives no record of the species for that county. This species is seen every year in migration in eastern Massachusetts, but there appear to be no breeding records, though a few years ago in Middleton, Essex County, a pair started a nest, which was later disturbed and abandoned (S. G. Emilio, Bulletin of the Essex County Ornithological Club, 1929).—Francis H. Allen, *West Roxbury, Mass.*

Singing of the Tree Swallow.—The Tree Swallow (*Iridoprocne bicolor*) is not generally known as a singing bird; all references which I have available credit the species merely with a variety of twittering notes. But at least in this locality (extreme northwestern Montana), Tree Swallows show definite seasonal singing habits. The usual twittering notes and phrases, some of which are truly musical, are given independently of season, weather, or time of day. One unvarying and pleasing phrase of gurgling notes is frequently interpolated between other notes by the male Swallows throughout the season; it is occasionally given by the females, especially when mating occurs; and I once heard a young Swallow only nineteen days old, on the day after leaving the nest, render this same musical phrase. But the true seasonal song of the adult male Tree Swallows is first given a few days before their mates commence egg-laying, and is last heard about the time the young birds leave the nests.

In the early part of the season the birds do most of their singing early in the morning, beginning between three and four o'clock, before daylight, and continuing for about an hour. As the light grows stronger, the songs become more irregular, the typical phrases being interspersed with ordinary twittering notes. As the season advances, the birds sometimes sing during the day also, especially during rainy weather. By the time the young birds hatch, singing may be heard frequently at all times of the day, even during very hot weather. Once in June I listened for several minutes to a Tree Swallow singing in flight at midnight.

Singing is done both in flight and from perches near the nests. A series of phrases, repeated over and over in slightly varying order, at a rate of 125 to 140 a minute, is given for several minutes or as much as an hour without pause. The commonest song which I have recorded during early morning hours runs something like this: "Tishha querr querr, tishha querr, tishha tishha querr, tishha querr, tishha tishha querr . . ." The accented *tishha* is sung with the second note slurred downward, and the *querr*, on a lower note, is given with a rising inflection. This order is reversed in another early morning song which I have written as "Eee

te-ver, eee-eee te-ver, te-ver, eee te-ver, eee-eee te-ver . . ." In this form, the *eee* is given with a rising inflection, and the second note of the *te-ver* is slurred downward. Sometimes this song is shortened to a series of two note phrases: "Eve-t'ver, eve-t'ver, eve-t'ver . . ." The commonest daytime song is more energetic and insistent: "See-querra, querra, see-see-querra, see-querra, see-querra, querra . . ." A number of other variations, similar to these songs in pitch, time and quality, are sung less commonly.—WINTON WEYDEMEYER, *Fortine, Montana.*

The Raven and the Pine Siskin on Stony Man Mountain, Virginia.—During the spring migrations that portion of the Blue Ridge included within the area covered by the proposed Shenandoah National Park, which is largely isolated from the neighboring mountain masses, is remarkable for the abundance and variety of its birds, and many species breed in the higher regions, especially about Stony Man Mountain, that are rare or even unknown in the adjacent lowlands.

Very common as summer residents here are the Carolina Junco (*Junco hyemalis carolinensis*), the Rose-breasted Grosbeak (*Hedemeles ludoviciana*) and the Scarlet Tanager (*Piranga erythromelas*), and on the barren grassy areas the Vesper Sparrow (*Pooecetes gramineus gramineus*).

On May 30, 1933, while at Skyland, Page County, on Stony Man Mountain, we found a Pine Siskin (*Spinus pinus pinus*) singing, and we have little doubt but that it was a resident bird.

On September 3, 1933, we saw and heard two Ravens (*Corvus corax principalis*) that were flying over the ridge a mile or so south of the peak of Stony Man.

Mr. Ruskin S. Freer (The Raven, vol. 4, No. 7, p. 11, July 1933) has recorded a single Northern Raven that he saw and heard on Hawksbill Mountain, along the Skyline Drive in Madison County, on July 22, 1933. So far as we know these are the only definite records of this bird for this region.

This district is physically quite suitable as a breeding ground for Ravens, but the number of people, natives and visitors, constantly moving about make it improbable that any of these birds now nest in this area. As we saw no Ravens along any portion of the Skyline Drive during the spring or early summer, we assume that the birds noted by Mr. Freer and ourselves were probably visitors from the Alleghanies.—AUSTIN H. CLARK AND LEILA G. FORBES, *U. S. National Museum.*

Eastern House Wren (Troglodytes aëdon aëdon) Breeding in North Carolina.—On May 13, 1933, I was surprised to discover a House Wren singing in Greensboro, North Carolina. The next day on the grounds of Dr. J. Wesley Taylor, located nine miles north of that city, I found three pairs nesting in bird boxes.

When the 'Birds of North Carolina' by Pearson, Brimley and Brimley, was published, in 1919, we had no record of this bird breeding in the state.

Mr. C. S. Brimley of Raleigh has sent me the following additional data. The first nest of the House Wren known to have been found in North Carolina was discovered at Salisbury by Elmer E. Brown in 1922. Other nests were built here each season for the next seven years. According to Mr. Brown a pair abandoned a nest after beginning to build at Davidson in May, 1928. In Raleigh a pair was found building on May 23, 1924, by F. Sherman, but this effort was abandoned. Mr. Frank R. Brown saw one feeding young at Greensboro, July 19, 1928. A nest was found there in 1929 by Elmer E. Brown and again in 1930 by P. M. Jenness. Mr. T. D. Burleigh reported a pair breeding at Beaufort in 1932.

The recent appearance of the House Wren as a breeding bird in North Carolina is another example of the well-known tendency of birds to extend their range.—T. Gilbert Pearson, *Nat. Asso. Audubon Societies, 1775 Broadway, N. Y.*

Western House Wren in Bienville Parish, Louisiana.—On the morning of April 15, 1933, I collected a Western House Wren (*Troglodytes aëdon parkmanii*)—identified by U. S. Biological Survey—about five miles southwest of the town of Bienville. This Wren was in company with one other of its kind when observed at approximately thirty feet with 8 power glasses. My approach not exciting them to the extent of retreat gave me an excellent opportunity to observe their feeding habits at close range.

Twenty days later on May 5, I observed another Western House Wren at close range with 8 power glasses one-half mile north of the town of Bienville. On this occasion my presence seemed to disturb the bird to some extent and as it flew from a hedge of briers to the tall grass along the border of a fresh water pond, it continued to utter its distress calls. These calls were responded to by two like calls from the near-by clumps of grass, indicating that there were more than the one observed present.

The Western House Wren has been reported only once from Louisiana; from Washington Parish near the Pearl River (The Birds of Louisiana, Bulletin No. 20, Louisiana Department of Conservation).—John S. Campbell, *Bienville, Louisiana.*

Some Observations Indicating the Northeastward Extension of the Range of the Starling.—It appears desirable to make a published record of the following observations relating to the northeastward extension of the range of the Starling (*Sturnus vulgaris vulgaris*) in North America.

A Starling was killed at Métabetchouan, Lake St. John County, Quebec, on February 3, 1932, and was sent to the Provincial Department of Colonization, Game and Fisheries, at Quebec, for identification. This information was furnished to me in a letter by Dr. L. A. Richard, Deputy Minister of the Department in question.

The observations recorded hereunder were made by me personally:

May 12, 1932. A flock of six Starlings was seen at Percé, Quebec, at the eastern end of the Gaspé Peninsula.

May 13, 1932. Eighteen Starlings were seen at Port Daniel, on the southern side of the Gaspé Peninsula. They were not in a flock, but were scattered and seemed to be well established. One pair was seen copulating. Undoubtedly they were nesting at this place.

May 19, 1932. Fifteen Starlings were seen at Murray Bay, Charlevoix County, Quebec, on the north shore of the St. Lawrence River, about eighty miles east of Quebec City. Apparently this species was well established and was nesting at this village.

September 24, 1932 A flock of eighteen Starlings was seen at Pownal, Queens County, Prince Edward Island.

May 9, 1933. Three Starlings were seen together, feeding on the ground among short grass, on Grindstone Island, Magdalen Islands, Quebec, near the central part of the Gulf of St. Lawrence. Half an hour later two of these birds were seen perched together on a telephone wire. One of the two was singing at this time, and it is probable that these two birds were a mated pair.

June 13, 1933. A flock of five Starlings was seen about sunset in conifers at the border of a grassy clearing at Betchewun, Saguenay County, Quebec, on the north shore of the Gulf of St. Lawrence. They seemed very shy and wild. Apparently they had roosted for the night, but when I approached them they flew to another tree close at hand, then, after a pause, flew away out of sight.

June 17, 1933. A Starling was seen at Natashquan, Saguenay County, Quebec. Natashquan is on the north shore of the Gulf of St. Lawrence at a point north of the eastern end of Anticosti Island and is about sixty miles east of Betchewun.—Harrison F. Lewis, *National Parks of Canada, Ottawa, Canada.*

Does Bachman's Warbler Winter in Florida?—Recently while looking over the Alden H. Hadley collection of birds at Earlham College, Richmond, Indiana, I examined a Bachman's Warbler (*Vermivora bachmani*). The label is as follows:—"No. 3790. *Helminthophila bachmani*, male, Melbourne, Fla., Jan. 27, 1898."

Mr. Arthur H. Howell in his 'Florida Bird Life,' p. 389, says: "Bachman's Warbler is a very early migrant, the earliest record in the United States being that of a male collected by A. H. Helme at Lukens, February 27, 1909." It seems that the bird first above mentioned is either the earliest migratory record or that the bird at least occasionally winters in Florida.—Amos W. Butler, *52 Downey Ave., Indianapolis, Indiana.*

The Calaveras Warbler in Montana.—Apparently the only published record of the occurrence of the Calaveras Warbler (*Vermivora ruficapilla ridgwayi*) in Montana is that of a specimen taken by Silloway at Flathead Lake in 1912 (Saunders, Condor, XVIII, p. 86). In Lincoln County, which occupies the extreme northwestern corner of the state, this species occurs as a very rare summer resident, being found, during

the nesting season, mainly in Transition Zone woods of Douglas fir and western larch. Though I have never found a nest, a few times in late July or early August I have observed young birds on the wing, in the company of adults.

My only occurrence records for the species that indicate its migration time in the vicinity of Fortine are the following: May 7, 1930; May 28, 1933; and August 31, 1930.—WINTON WEYDEMEYER, *Fortine, Montana.*

Mourning Warbler and Lincoln's Sparrow in Western Virginia.—On September 25, 1933, at Cameron's Pond, near Lexington, Virginia, I took an immature Warbler, which Dr. H. C. Oberholser has identified as a Mourning Warbler (*Oporornis philadelphia*), "probably a juvenile male." I saw a similar bird at the same place on September 29. There is no previous record for western Virginia, and I believe that a record by Dr. William C. Rives for May 14, 1890, in Albemarle County is the only other occurrence in the state outside the Washington, D. C., region.

On October 18, 1933, at the same place, I took an adult Lincoln's Sparrow (*Melospiza l. lincolni*). I had seen one (possibly the same bird) at this place on September 21 and 29, 1933. On each occasion the bird had mounted a wire fence or bare twig in full sunlight and given ample opportunity for observation. In fact the bird I shot had returned to open view after having been frightened from his first perch. This bird, too, is rare in Virginia outside the Washington region, Montgomery County (Dr. E. A. Smyth) being the only other place where it has been taken.—J. J. MURRAY, *Lexington, Virginia.*

Notes on the Bobolink in West Virginia.—For many years it has been known that the Bobolink breeds occasionally in the counties of West Virginia's northern pan-handle, but recently the birds have appeared in other sections of the state during the nesting season.

During the summer of 1932 I several times saw adult birds in Preston and Tucker Counties. In June, 1932, Dr. Ivan Fawcett, of Wheeling, W. Va., a member of the Oglebay Nature Training School, found a nest with eggs at Redhouse, Garrett County, Maryland, just three miles from the West Virginia border.

The birds were seen in July and August, 1933, in Tucker County, W. Va., and they were reported from the neighborhood of Aurora, Preston County. All of these localities are on the Alleghany Plateau, at an elevation of nearly 3,000 feet.

Much more remarkable is an observation reported to the writer by Dr. P. D. Strausbaugh, of the Department of Botany of West Virginia University. He reports that in July, 1933, he and a number of his students observed Bobolinks feeding young in the meadows around Summersville, Nicholas County, W. Va. This is in the south-central portion of the state, and conditions are typically Carolinian. The range for this bird as a breeding species in West Virigina is thus extended some 150 miles south

into a new life-zone. So far as the writer knows, this is the most southerly breeding record for the entire United States.

Mr. I. B. Boggs, a state leader of Boys' and Girls' Four-H Clubs, tells me that during June and July, 1932, an adult male Bobolink was in full song in the neighborhood of Jackson's Mills, Lewis County, W. Va., which is also in the Carolinian life zone.—Maurice Brooks, *French Creek, W. Va.*

Brewer's Blackbird (Euphagus cyanocephalus) in Georgia.—Since the taking of this species near Augusta on November 30, 1932, by Thos. D. Burleigh (Wilson Bull., Sept. 1933, pp. 111–113), the following specimens have been identified by Dr. Harry C. Oberholser of the U. S. Biological Survey, and may prove the species to be more common in this section than realized. One, a female, was taken on March 1, 1931, by Mr. D. V. Hembree near Four Killer Creek in Milton (now part of Fulton) County, about twenty miles north of Atlanta. This bird is mounted and is in the museum at the State Capitol. The other one, a male, was taken on March 27, 1932, by L. M. Taylor, a cousin of D. V. Hembree, at the same location. This specimen, a skin, is in the writer's collection.—Earle R. Greene, *Atlanta, Ga.*

Florida Grackle (Quiscalus quiscula aglaeus) in Northern Georgia.—The only record of this bird for this part of the state, is a mounted specimen in the museum at the State Capitol, taken by Mr. D. V. Hembree on March 1, 1926, at his home in Milton (now a part of Fulton) County, about eighteen miles north of Atlanta. It is a male bird and has been identified by Dr. Harry C. Oberholser of the U. S. Biological Survey.—Earle R. Greene, *Atlanta, Ga.*

A Breeding Record for the Florida Grackle in the Piedmont Region of South Carolina.—On April 26, 1933, while near Anderson, in Anderson County, South Carolina, in the extreme northwestern corner of the state, I was interested in finding a small colony of Florida Grackles (*Quiscalus quiscula aglaeus*) nesting in a small grove of trees about a farm house. My attention was first attracted to the birds by seeing the females gathering nesting material in an open pasture, closely followed by the males, and by watching them for a short time I soon located the nesting site. A close scrutiny of the trees eventually revealed five nests, all practically built, but none as yet holding eggs. Four were in short-leaf pines and one in a sweet gum, varying in height from fifteen to forty feet from the ground, and without exception they were at the outer ends of the larger limbs where they could have been reached only with extreme difficulty. As there was some question in my mind as to what race these birds represented, a male was collected, and found to be typical of *aglaeus*. This is apparently the first definite breeding record for this form in South Carolina north of the coast region. Arthur T. Wayne (Birds of South Carolina) states that the Purple Grackle (*Quiscalus quiscula quiscula*) "breeds in the

interior of the State," but as he gives no authority for this statement, it is probable that he merely assumed this fact. In the Supplement issued recently by the Charleston Museum no further comment appears concerning the range of the breeding Grackles in South Carolina.—THOS. D. BURLEIGH, *Biological Survey, Asheville, North Carolina.*

Dickcissel in Lancaster County, Pa.—On June 8, 1933, we found breeding in Warwick Township, northern Lancaster County, the bird which the older of us has been seeking for forty-five years. There he was perched on a telephone wire persistently singing "dick dickcissel" and clearly showing his diagnostic colors. As late as the second week in July we could always find him on or near this perch, and twice we saw the female. This pair of Dickcissels (*Spiza americana*) were breeding one mile north of the town of Lititz. It is the first local record for at least fifty years.—HERBERT H. BECK AND BARTON SHARP, *Lancaster, Pa.*

Sleeping Posture of House Finches on the Nest at Night.—House Finches (*Carpodacus mexicanus frontalis*) hatched five broods in the tall Pyrocantha bushes growing against the front of my house in Benicia, Calif., this spring. The last nest constructed was directly in front of the bed-room window, from which we could watch proceedings almost as well, or possibly even better than if the family were reared in the room. The female did all of the sitting on the eggs and the four eggs hatched without event. Subsequently both male and female fed the young.

I was interested, though, especially in looking in on them at night. Aided by a flashlight, the beams directed out through the window, I found that the female invariably slept with her head under one wing. Although this is what might be expected, I had never before had the opportunity of looking into a bird's nest so conveniently situated to allow night investigation without fear of disturbing the sitting bird. The female had become so accustomed to motion and noise in the room that considerable rather vigorous tapping on window failed to arouse her.

The mother did not brood her young on the final nine nights the young were in the nest. During this period it was interesting to note that the fledglings, on the last six nights prior to their departure, also tucked their heads under their wings. Prior to that time, quite evidently, the little fellows had insufficient feathers to "tuck" under.—EMERSON A. STONER, *Benicia, California.*

The Alabama Towhee, An Addition to the Louisiana List.—I wish to record herewith the taking of an adult male Alabama Towhee (*Pipilo erythrophthalmus canaster*) at Baton Rouge, Louisiana, East Baton Rouge Parish, on July 5, 1933. As far as it can be ascertained, this is the first record of the occurrence of this subspecies in the state. It was through the courtesy of Dr. Harry C. Oberholser, of the United States Biological Survey, that the identity of this specimen was verified.

The occurrence of this form, rather than the typical Red-eyed Towhee

(*P. e. erythrophthalmus*), has been suspected for some time by the writer, due to certain data that have become evident through field observations in various parts of the state. It was noted that Towhees do not remain to breed in the north central part of the state near Monroe, although they are known to occur quite commonly in certain sections of Arkansas during the breeding season (Baerg, Birds of Arkansas, 1931). Further evidence of the absence of the species in northern Louisiana during the summer was offered by J. S. Campbell, of Bienville Parish. He had been unsuccessful in locating the birds in the northwestern part of the state, and both he and the writer could not find them in the northeastern section near Tallulah and Oak Grove, in Madison and West Carroll Parishes respectively.

At about the same time, the writer was surprised to find the Towhee a common breeding species at Baton Rouge. A nest was located there on June 28, 1932. Furthermore, the species was found not uncommon south of the Mississippi state line near Clinton and Jackson. Stanley C. Arthur's 'Birds of Louisiana,' published anonymously in 1931 by the Louisiana Department of Conservation (Bulletin No. 20, p. 569), also lists the bird as a common breeder in the region around Jackson and Clinton. This interruption in the breeding ranges of the birds occurring in Arkansas and those found in southeastern Louisiana immediately lead to the supposition that the range of the Alabama Towhee extended through Mississippi and into the Florida Parishes of this state. Such has been shown by the identification of an adult, singing male collected at Baton Rouge. Possibly this form does not occur very far west of the Mississippi River. Bailey and Wright, during several summers' work along the southern coast, were unable to find Towhees later than May 18 (Wilson Bulletin, XLIII, 1931, pp. 212–213).

The absence of an overlapping in the breeding ranges of two subspecies as closely related as the Red-eyed and Alabama Towhees is indeed interesting.

Furthermore, the fact that Audubon specifically stated in regard to the Towhee, "None of them breed in Louisiana, nor indeed in the state of Mississippi" (Birds of America, III, 1859, p. 168), leads one to believe that the Alabama form has extended into Louisiana since the time of Audubon. Since his home at St. Francisville is now in the center of a region where the species is abundant as a breeder, it is difficult to believe that he could have completely overlooked it.—George H. Lowery, Jr., *Department of Zoology, Louisiana State University, Baton Rouge, Louisiana.*

Insects in the Winter Food of Tree Sparrows.—The stomachs of 549 Tree Sparrows (*Spizella a. arborea*) have been examined by the Bureau of Biological Survey, U. S. Dept. of Agriculture, 328 of which were taken in the winter months, as follows: December, 103; January, 116; and February, 109. Of these, 14 stomachs (December, 6; January, 3; February, 5) contained insects and spiders, in percentages varying from 1 to 90 of the total content. Insects and spiders, in the form of eggs, larvae, pupae

and adults, constituted approximately one-third of all the food taken. More than 400 of the stomachs came from one restricted area, and were taken by a single collector, a long series being frequently taken in one day. Only three of these 400 stomachs were among the 14 containing insects. The 11 remaining insect-containing stomachs were taken on ten dates at ten localities by nine collectors.—PHOEBE KNAPPEN, *Washington, D. C.*

Rare birds at Lake Ontelaunee, Reading Pa.—In addition to the Leach's Petrels recorded on p. 74 *antea* the following species were observed on this reservoir lake six miles north of Reading following the storm of late August, 1933.

Oceanites oceanicus. WILSON'S PETREL.—Two were with the Leach's Petrels on the reservoir on August 24. These were readily distinguished at short range by smaller size, darker color, square tail, etc.

Sterna antillarum antillarum. LEAST TERN.—One was resting on some trash at the head of the reservoir on the same day. This is the first local occurrence of this bird in the present century, to the best of my knowledge.

Catoptrophorus semipalmatus semipalmatus. WILLET.—One of these striking birds seen both at rest and in flight at close range, on August 24, constitutes the first county record, either old or new.

A number of other species of rare occurrence were noted in numbers on the same day, such as Laughing Gull and Sanderling.—EARL L. POOLE, *Reading Public Museum, Reading, Pa.*

Summer Bird Records for North Carolina.—While doing field work in the Pamlico Sound area of North Carolina the week of June 22–28, I was much surprised to find two adult Least Sandpipers (*Pisobia minutilla*) with two apparently full grown juveniles. The birds were observed on Ocracoke Island, June 25. If these birds were early fall migrants, the migration was almost a month earlier than that normally reported for this area.

It was interesting to note on this date and at the same island beach such a variety of apparently non-migrating "northern" shore-birds. The following were observed: one Lesser Yellow-legs, five Greater Yellow-legs, ten Knots, one Hudsonian Curlew, and seven Ruddy Turnstones. While none of these species were seen on any of the adjoining North Carolina islands, five Knots were observed on June 29 at Egg Island, north of Atlantic City, New Jersey. I have been unable to find any previous summer records for any of these birds for North Carolina and none are recorded by Pearson, Brimley & Brimley in their 'Birds of North Carolina.' It should be stated, however, that there are summer records for other coastal states. While none of these birds was collected, they were observed with 8-power binoculars at a comparatively close range.

Near Avon, Hatteras Island, on June 24, a flock of 42 Brown Pelicans was observed and five more individuals were seen near the town of Hatteras. Such numbers in a single flock this far north would seem to indicate an increase in numbers and an extension in the range of this species.

These islands off the mainland coast afford excellent breeding areas for a variety of water birds. On June 25, on the southern portion of Ocracoke Island, I found a nesting colony of about 175 pairs of Black Skimmers. The nests were merely hollows scooped out of the dampened sand without any trace of nesting material. About one nest in ten contained young and incubation appeared to be well advanced in a great many others. The clutch varied from two to four, with three being the usual number. This is of interest inasmuch as Bent, Forbush, and others state that four is the usual clutch. This may indicate a variation in locality, in colony, or in season. A number of nests containing two young or two eggs far advanced in incubation were observed.

One clutch of clear white to creamy white unspotted (albino) eggs was noted. I find that there are two such eggs in the large collection at the U. S. National Museum and four others only faintly marked. Bent writes (Bul. U. S. N. M., No. 113, p. 314) that the eggs are "usually heavily marked . . ." and ". . . nearly all . . . are more or less heavily spotted or blotched . . . ," but he does not state that the eggs are ever pure white or unspotted.

The series of eggs at Ocracoke showed many interesting and picturesque variations in color patterns. The ground color varied from a nearly pure white to pale greenish light pinkish or even a buffy tint. Nearly all were heavily marked with various shades and patterns of brown. While there was considerable variation in the shape of the eggs, most of them were more or less rounded ovate.

The clutch with the albinistic eggs contained two young just hatched, one young struggling to free itself from the egg, and one egg not pipped. Because the young of this nest were almost identical with the young of other nests it would preclude any possibility of some other bird having laid in the Skimmer's nest. As a further check the unpipped egg was brought to Washington and was found to contain an almost fully developed embryo. This specimen has been carefully checked with museum series.

The parent bird (of the nest in question) was frightened away from her nest three times, but each time within fifteen minutes after the observer hid himself she returned to her duties of incubation and the mate, presumably the male, alighted some fifteen or eighteen inches from her as if to help keep guard. The Skimmers are easily frightened from their nests and usually leave and keep together as a flock. Upon leaving, their wailing cries are given almost continuously, and many fly off close to the ground feigning injury. The often repeated belief that the Skimmers leave most of their duties of incubation to the sun was not correct for this colony.

I found two pairs of Gull-Billed Terns nesting with the Skimmers. When I approached their nest, one pair of birds became most vociferous and repeatedly darted down to within fifteen inches of my head.

Some fifty yards distant from the Skimmer colony was a small colony

of nesting Common Terns. These birds had appropriated a grassy plot for their nesting site. Larger colonies of Common and Least Terns were found on Hatteras Island, June 23–24. It appeared that these birds averaged a week or more earlier in their incubation than did the Skimmers. One downy young Common Tern, that was headed off from running along the beach, unhesitatingly swam about two rods out into the water along the shore.—CLARENCE COTTAM, *U. S. Biological Survey.*

Notes from Escambia County, Florida.—*Chen caerulescens.* BLUE GOOSE.—On April 23, 1932, a single Blue Goose, discovered flying eastward over the surf on the Gulf beach near Pensacola, was seen to swing shoreward and alight on the sand. An approach to within fifty yards was made under cover of the sand dunes, and I was able to examine it at my leisure as it stood in full sunlight. It appeared to be an immature bird with much white on the neck, but not yet in full adult plumage. A. H. Howell cites (Florida Bird Life, p. 129) only a single spring occurrence of this species in the state—April 5, 1859, at Key West.

Clangula hyemalis. OLD-SQUAW.—The sight of a single Old-squaw near Pensacola on December 4, 1932, constituted only the third instance in my local experience of the occurrence of this rare winter visitor. The bird was watched for a long time as it followed the Bay shore, diving and feeding as it went. Of the three birds seen in this region during the past seventeen years, all have been females or immatures.

Haematopus palliatus palliatus. AMERICAN OYSTERCATCHER.—Since the publication of Howell's 'Florida Bird Life,' in which is cited my record for the Oystercatcher on May 18, 1919, two other instances of its local occurrence have been noted—on May 4, 1932, and April 22, 1933, single birds on each occasion. This species, formerly common in Florida, is now considered rare on both the Atlantic and the Gulf coasts of the state.

Pluvialis dominica dominica. AMERICAN GOLDEN PLOVER.—A single bird, seen on November 13, 1932, near Pensacola, is believed to be the only one ever recorded from this end of the state as well as one of the very few noted in the whole state in the past thirty years. The bird appeared to be very tame, showed no sign of deserting the overflowed field in which it was feeding, and several times allowed of approach to within thirty yards. It was examined through 6x binoculars in fair to good light for a long time, both at rest and in flight, and the points of difference between it and the very similar Black-bellied Plover were noted at the time.

Antrostomus vociferus vociferus. EASTERN WHIP-POOR-WILL.—This species, an elusive migrant and winter visitant, had never been recorded in Florida earlier than October (Howell, Florida Bird Life, pp. 298–299) until, on September 11, 1932, a single bird was found crushed on the highway near Pensacola. It was so badly mangled and so far gone in decay that preservation was out of the question. However, the longest primary from one wing was sent to the Biological Survey, where Dr. Harry C. Oberholser identified it definitely as being that of a Whip-poor-will.

Sturnus vulgaris vulgaris. STARLING.—The first known nesting of this species in Florida was reported from Pensacola for the breeding season of 1932 (Auk, XLIX, October, 1932, p. 486). In the breeding season of 1933, both of the nesting sites of the preceding year were found to have been abandoned, but the local population of Starlings seemed to be greater than before and more widely distributed. Occasional pairs were noted in several parts of the county, where the birds were almost certainly breeding. The only actual nesting site discovered was located in a residential section of Pensacola, whereas both sites of 1932 were in the suburbs. The nest was in an old Woodpecker hole in a telephone pole. Other holes in the same pole were being used at the same time by a pair of Red-headed Woodpeckers and one or more pairs of English Sparrows.

Dendroica magnolia. MAGNOLIA WARBLER.—On September 13, 1931, an immature specimen of the Magnolia Warbler was taken on the edge of the river swamp in the northern part of this county, near McDavid. The earliest previously recorded occurrences of this uncommon migrant anywhere in the state are the two cited by Howell—September 30, 1917, and September 30, 1923.

Zonotrichia albicollis. WHITE-THROATED SPARROW.—This species, unusually common in the winter of 1932–33, seems to have set a new mark for the state at large by appearing in Pensacola on October 16, 1932. The earliest previous arrival date, as cited by Howell, was on October 23, 1924, at Daytona Beach.—FRANCIS M. WESTON, *Bldg. 45, U. S. Naval Air Station, Pensacola, Fla.*

A Five-Year Shore Bird Census at Daytona Beach.—Between July 2, 1925, and May 25, 1930, I made 82 shore bird censuses along a five-mile stretch of the Daytona ocean beach, from the "Silver Beach Approach" to the "Port Orange Approach." The purpose was to establish, over a considerable area and through a considerable period of time, an average of abundance for each species, to the end that in later years, this census average could be used as a basis for determining increase or decrease for these species.

In the chart is given the average number of individuals of each species per trip per month for the five-year period. Thus, for the Sanderling, six July census trips were made (on July 2, 1925, July 19, 1927, July 19, 1928, and July 6, 14 and 24, 1929) and these six trips totalled 307 Sanderlings, or an average per trip for July of 51. Each species is similarly treated. Detailed data from which the chart is constructed are omitted.

It should be noted that shore-birds are naturally scarce on the beach from the first of June until the middle of July. The July 51 average per trip for the Sanderling is due largely to a count of 260 on one trip (July 24, 1929).

It may further be noted that this is strictly an ocean sand beach census. At the Inlet, twelve miles south of Daytona Beach, Wilson's Plovers, Red-backed Sandpipers and Least Sandpipers are more common in season than along the beach proper. The scarcity of Spotted Sandpipers and

AVERAGE NUMBER OF SHORE BIRDS OF FOURTEEN SPECIES FOUND ON A FIVE MILE STRETCH OF BEACH AT DAYTONA BEACH, FLORIDA.

Averages are based on four to twelve census trips per month in a period of five years, 1925–1930; a total of 82 trips.

		Sanderling	Black-bellied Plover	Ruddy Turnstone	Semipalmated Sandpiper	Piping Plover	Semipalmated Plover	Wilson's Plover	Willet	Red-backed Sandpiper	Knot	Least Sandpiper	White-rumped Sandpiper	Spotted Sandpiper	Dowitcher
July		51	1.6	1.6	15	0	0.5	2.0	21.0	0	0	0.1	0	0	0
Aug.		213	1.4	21.0	17	0.8	12.0	0.8	24.0	0	0.2	0.2	0	0.1	0.1
Sep.		149	6.3	39.0	12	3.8	7.0	0.1	5.5	0	0.1	0	0	0	0
Oct.		111	6.8	39.0	25	7.6	3.4	0	2.0	0.6	0.8	0.2	0	0	0
Nov.		90	9.2	34.0	28	11.0	0.7	0	0	0.2	8.0	0	0	0	0
Dec.		98	3.1	27.0	4.6	5.3	0	0	0	0.3	1.0	0	0	0	0
Jan.		88	1.0	23.0	0.5	5.2	0	0	0	0	0	0	0	0	0
Feb.		104	0.3	24.0	0.1	3.8	0	0	0	0	2.5	0	0	0	0
Mar.		148	0	51.0	0.5	4.0	0	0	0.2	0	0.2	0	0	0	0
Apr.		140	1.3	3.0	0	1.6	0.3	0.3	0.2	0	0	0	0	0	0
May		145	1.4	8.1	27	0	13.0	0.1	0.1	0	175.0	0.3	0.1	0.2	0
June		3	0.4	4.0	0..1	0	0	0.7	0	0	4.7	0	0	0	0

Dowitchers is of course accounted for by the nature of the census territory. The White-rumped Sandpiper is rare anywhere in Florida.—A. J. LONGSTREET, *Daytona Beach, Fla.*

Additional Notes on the Birds of Louisiana.—*Charadrius semipalmatus.*—SEMIPALMATED PLOVER.—This species was first observed in northern Louisiana by the writer in company with John S. Campbell in the vicinity of Lake Providence, Louisiana, in East Carrol Parish, on April 23, 1932. Several individuals were feeding on a mud flat back of the Mississippi River levee. On May 8, 1932, at Monroe, Louisiana, in Ouachita Parish, the species was again observed by the writer. Inasmuch as this species is listed only in the hypothetical list of the 'Birds of Arkansas' (Baerg, 1930), the records for northern Louisiana are of interest.

Ereunetes mauri. WESTERN SANDPIPER.—On December 23, 1932, Campbell and I watched six Sandpipers of this species as they fed along the shores of Lake Beulah, a salt water lake within the city of Monroe. We were often within a few yards of the birds and with the use of our 6x and 8x binoculars, we were able to make out every feature to aid in their identification. The length of the bill was clearly seen to exceed one inch in length. Because of the proximity of residences we could not collect a specimen.

Speotyto cunicularia hypugaea. WESTERN BURROWING OWL.—A specimen was collected by the writer at Baton Rouge, Louisiana, in east Baton Rouge Parish, on March 11, 1933. Through the courtesy of Dr. H. C. Oberholser, of the U. S. Biological Survey, its subspecific identity was verified and the specimen has now been returned to the Louisiana State University Museum Collection. Burrowing Owls have been seen in Louisiana before, yet all publications on the birds of the state which list the species suggest that the form to be found here is the subspecies *floridana* instead of *hypugaea.* The subspecific identification of the specimen collected at Baton Rouge is at least a step in the establishment of the correct identity of the form occurring in the state.

Muscivora forficata. SCISSOR-TAILED FLYCATCHER.—A specimen was collected at Wisnor, Louisiana, in Franklin Parish, on April 10, 1933, by P. R. Thaxton. Specimens have been recorded from the southern part of the state as far east as the Mississippi Delta. This is, however, the only record that we have of its occurrence in the northern part of the state.

Passerherbulus caudacutus. LECONTE'S SPARROW.—A specimen was collected at Monroe, on December 22, 1932, by Campbell and the writer. Previous publications on the birds of Louisiana list this species as a winter visitor but as far as it can be ascertained, the only other record of its actually having been collected in the state is from Natchitoches, Louisiana, in Natchitoches Parish, on January 17, 1908, by Mr. Arthur H. Howell.—GEORGE H. LOWERY, JR., *Department of Zoology, Louisiana State University, Baton Rouge, Louisiana.*

Records for Illinois and Michigan.—The following accumulation of records may be of interest to ornithologists of the Middle West. All but the last are from Illinois:

Gavia stellata. Red-throated Loon.—One adult seen May 18, 1931, on Belmont Harbor in Lincoln Park, Chicago; attention is called to the date, which is rather late in the spring.

Tyto alba pratincola. Barn Owl.—One adult seen April 27, 1928, in Lincoln Park, Chicago.

Casmerodius albus egretta. American Egret.—Seen in numbers ranging from one to five on August 6, 7 and 13, 1932, and on September 2, 9 and 17, 1933, on shores of Slocum's and Island Lakes near Wauconda, Lake Co., Ill.

Sthenelides olor. Mute Swan.—One observed September 26, October 11 and November 1, 1931, at Slocum's Lake near Wauconda, had a faint reddish-brown tinge to head and neck, and therefore was regarded by the observer as a young bird; it might have escaped from some private estate, but was fully capable of flight.

Aix sponsa. Wood Duck.—Three adult males and one adult female observed May 15, 1932, in a swamp half a mile east of Slocum's Lake, Wauconda.

Falco peregrinus anatum. Duck Hawk.—One seen September 5, 1931, attacking a Green Heron at Slocum's Lake near Wauconda.

Steganopus tricolor. Wilson's Phalarope.—Three males and one female seen May 16, 1931, at edge of water-hole near clubhouse of Wauconda Country Club near Wauconda.

Icterus spurius. Orchard Oriole.—One male observed June 17, 1933, in a clump of burr oaks at the northeast corner of the Belaire Country Club golf course near Wauconda.

Euphagus cyanocephalus. Brewer's Blackbird.—Several adults seen feeding almost fully grown young on June 17 and 18, 1933, in swampy meadow bordering Belaire Country Club near Wauconda.

Pandion haliaetus carolinensis. Osprey.—One adult seen May 2, 1931, flying over city reservoir five miles south of Macomb, McDonough Co., Ill.

Catoptrophorus semipalmatus inornatus. Western Willet.—One adult seen July 5, 1930, at South Haven, Berrien Co., Mich., first observed resting at end of pier, and then seen circling over, and finally flying out of sight.—Chas. Theo. Black, *407 E. Daniel St., Champaign, Ill.*

Additional Northeastern Illinois Notes.—*Anser albifrons albifrons.* White-fronted Goose.—One was seen at Evanston on April 4, 1927.

Aix sponsa. Wood Duck.—A late migrant was seen at Evanston on December 18, 1923. A female was seen at Beach on May 30, 1925, but the nest, if any, could not be found.

Falco columbarius columbarius. Pigeon Hawk.—An immature female was taken at Beach, Lake County, on September 14, 1930. We also have

the following sight records: Evanston, April 30, 1926, and April 17, 1927; Beach, October 8, 1927.

Colinus virginianus virginianus. BOBWHITE.—An adult female shot at Beach on September 25, 1926, was in male plumage.

Coturnicops noveboracensis. YELLOW RAIL.—One was seen at Beach on September 13, 1926.

Pluvialis dominica dominica. GOLDEN PLOVER.—Sight records of single birds are as follows: Waukegan, July 17, 1927, and September 14, 1930; Beach, April 22, 1928.

Arenaria interpres morinella. RUDDY TURNSTONE.—A male was shot at Beach on May 13, 1928, and an adult female at Waukegan on August 4, 1928.

Steganopus tricolor. WILSON'S PHALAROPE.—Brodkorb took the following Cook County specimens: Wolf Lake, June 4, 1927, male and female; Hyde Lake, May 19, 1928, female (two others seen).

Empidonax flaviventris. YELLOW-BELLIED FLYCATCHER.—An early fall date is August 6, 1927, when an adult male was shot at Beach, and two others were seen.

Dumetella carolinensis. CATBIRD.—Mr. Karl Plath sent us an adult female which was captured alive in Chicago on December 18, 1927.

Protonotaria citrea. PROTHONOTARY WARBLER.—Lake County records are few. A male was seen by Henry K. Coale and Brodkorb at Highland Park on August 29, 1926.

Euphagus cyanocephalus. BREWER'S BLACKBIRD.—A female containing an egg with shell was taken at a small breeding colony near Winnetka, Cook County, on June 15, 1930. Mr. James S. White collected a male and a female at the same time.

Molothrus ater ater. COWBIRD.—On January 29, 1927, a male was shot at in a flock of *Passer domesticus*, but it escaped into the grounds of a factory.

Hesperiphona vespertina vespertina. EVENING GROSBEAK.—Three were seen at Evanston on October 20, 1923.

Loxia curvirostra pusilla. RED CROSSBILL.—Sight records are Evanston, November 28, 1923, two; November 9, 1927, nine; Beach, September 17, 1927, one.

Passerherbulus caudacutus. LECONTE'S SPARROW.—One was shot at Beach on October 10, 1926, but it escaped. Enough feathers were found to identify the bird.

Spizella pallida. CLAY-COLORED SPARROW.—One was seen at Evanston on May 21, 1927.—PIERCE BRODKORB, *Ann Arbor, Michigan,* AND JAMES STEVENSON, *Berkeley, California.*

Late Spring Records for Illinois.—I call attention to the lateness of the following Illinois spring migration records. The observations were made in Lake County at Slocum's and Island Lakes, and also in McHenry County of the Fox River at a point about ten miles south of McHenry, Illinois. This territory lies twenty miles west of Lake Michigan, twenty

miles south of the Wisconsin boundary, and thirty miles northwest of Chicago.

Branta canadensis canadensis. CANADA GOOSE.—On June 15, 1933, three adults were seen flying south over Slocum's Lake, honking as they passed overhead.

Nyroca collaris. RING-NECKED DUCK.—On June 15, 1933, an adult male was observed on Slocum's Lake swimming and diving fifty yards from shore. In the bright sunlight the chestnut "collar" was clearly evident through 8x binoculars. On June 17, 1933, an adult male was observed on Island Lake; since the lakes are only one mile apart, I consider this individual to be the one seen two days before.

Nyroca affinis. LESSER SCAUP DUCK.—On June 18, 1933, two adult males were observed together on the Fox River swimming about and diving, and later flying southward after being disturbed by an approaching rowboat. The purple sheen of the head, on which I base the species identification, was quite apparent, since the light was excellent, and the distance of observation not over thirty yards.

Sterna hirundo hirundo. COMMON TERN.—On June 15, 1933, four adults were observed flying over Slocum's Lake, stopping now and then to feed.

Although recent records are few, the first three of the birds listed are known to be rare breeders in northern Illinois, which is the approximate southern limit of their breeding ranges. The southern breeding limit of the Common Tern west of Lake Michigan according to the 'Check-List' is southern Wisconsin. Thus, in spite of the fact that neither nests nor young were found, the mere presence of all of these species at the late date noted might indicate that they were breeding in northeastern Illinois. However, a possibility which must not be overlooked is that they might have been non-breeding individuals summering in that locality, since such records do exist for the Lesser Scaup Duck and the Common Tern. Also, it is possible that the Common Terns observed were merely rather late spring migrants. However, since my compulsory absence from the territory in question prevented subsequent and more conclusive observation, the exact status of the individuals observed is uncertain.—CHAS. THEO. BLACK, *407 E. Daniel St., Champaign, Ill.*

Notes From Stutsman County, North Dakota.—*Spiza americana* DICKCISSEL.—During the latter half of June and early July, 1933, eight or ten males were repeatedly seen each in a limited area along a stretch of about eight miles of highway in the east central section of the county. No search was made for nests and no females were noted but as the males were in full song, it was assumed that the birds were breeding. While the writer has recorded occasional individuals in central Stutsman County since 1926 (1 ♀ Aug. 2, 1931; 1 ♂ June 20, 1930) the numbers seen in June 1928 only are comparable with those of this season.

Calamospiza melanocorys. LARK BUNTING.—Not a single bird noted in June or July (1933). The species bred commonly in 1931, 1930 and 1929.

No data are at hand for 1932 concerning either of the above mentioned species.—ARCHIBALD JOHNSON, *Stewart, Nevada.*

Some West Indian Records of Charadriiformes.—Due to the scarcity of definite records of occurrence of Charadriiform birds in the West Indies, it seems desirable to place the following observations made during travels in the summer of 1931 on record. They represent in most cases either first records for the island in question or dates of occurrence earlier than those previously recorded.

On St. Kitts the following shore-birds were seen at Greatheed's Pond on August 10: 2 Rufous-naped Plovers (*Pagolla wilsonia rufinucha*), 20 Ruddy Turnstones (*Arenaria interpres morinella*), 2 Spotted Sandpipers (*Actitis macularia*), 1 Lesser Yellow-legs (*Totanus flavipes*), 5 Semipalmated Sandpipers (*Ereunetes pusillus*) and 1 Black-necked Stilt (*Himantopus mexicanus*).

On Nevis on August 7, near Charlestown, Roseate Terns (*Sterna dougalli dougalli*) were common, and a female was collected. Shore-birds seen on that date were 2 Ruddy Turnstones, 20 Spotted Sandpipers and 4 Least Sandpipers.

On Montserrat 20 Spotted Sandpipers were seen near Plymouth on July 31.

On Barbados a very unsuspicious Dowitcher (*Limnodromus griseus griseus*) was observed at close range, so close that it was injured with a stone, at St. Lawrence on July 19. Spotted and Least Sandpipers were also present on that date.

In British Guiana a Spotted Sandpiper (*Actitis macularia*) was observed along the Demarara River near Craig on July 24, an early date for this species to be so far south.—STUART T. DANFORTH, *University of Puerto Rico, Mayagüez, Puerto Rico.*

Plecoptera as a Bird Food.—In 'The Auk' for July, 1932, and for July, 1933, Mr. W. J. Hamilton, Jr., recorded finding stoneflies in the stomachs of the Blue Jay, Black-capped Chickadee, Golden-crowned Kinglet, Slate-colored Junco, Tree Sparrow and Song Sparrow. As little else has appeared on Plecoptera as bird food (McAtee, W. L., Smithsonian Misc. Col. 85 (7): 30, 1932) it may be of interest to summarize the records of stoneflies occurring in stomachs examined by the United States Biological Survey.

Plecoptera were found in 122 stomachs of fifty species of North American birds. This latter figure is raised to fifty-four by Mr. Hamilton's examinations. The adult stoneflies are most commonly found, larvae and nymphs occasionally, and eggs rather infrequently. The Nighthawk is the most persistent stonefly eater, twenty-one stomachs of this species having contained them, closely followed by the American Golden-eye, which had them in seventeen stomachs. The stomach and gullet of one Nighthawk contained forty-one and forty-two adult stoneflies, respectively—the

largest number taken by a single bird, though the stomach of a Swainson's Hawk contained forty-three and that of a Western Grebe twnety-nine.

Only one stonefly was certainly identified to the species; in thirteen cases identifications were possible to the genus, five genera being recorded. One bird had taken a *Nemoura* sp., of the family Nemouridae, the rest of the stoneflies either belonged to the family Perlidae, or could not be identified beyond the order.

Stoneflies were found in twelve stomachs collected in April, 19 in May, 23 in June, 15 in August and from 2 to 8 in the other months.—PHOEBE KNAPPEN, *Washington, D. C.*

RECENT LITERATURE.

The A. O. U. 'Memorial Volume.'—In commemoration of the Semicentennial of the A. O. U. a memorial volume[1] entitled 'Fifty Years Progress of American Ornithology' was published on the first day of the fifty-first annual meeting, on November 13, 1933.

The volume consists of a frontispiece photograph of the founders of the Union; fourteen articles on various branches of ornithology as developed in America, by those who are authorities on the several subjects, and a chronology of the A. O. U. activities. While the work is necessarily not a bibliography nor a complete history of ornithology, since it is limited to the work of Americans, it presents an astonishing amount of information in a minimum of space and is not only interesting reading but will prove a handy and valuable work of reference, while all members of the A. O. U. will find in it ample reason to be proud of the part that American ornithologists have played in furthering the science for which our organization stands.

The contents of the volume are as follows: A Brief History of the A. O. U., by T. S. Palmer; American Ornithological Literature—1883–1933, by Witmer Stone; Fifty Years of Bird Migration, by William Rowan; Bird Banding by Frederick C. Lincoln; The Theory of Territorialism, by Margaret M. Nice; Advances in Life History Work, by Herbert Friedmann; Economic Ornithology, by W. L. McAtee; Collections of Birds in the U. S. and Canada: Study Collections, by James L. Peters; Exhibition Collections, by Frank M. Chapman; History and Progress of Bird Photography in America, by Alfred O. Gross; Fifty Years of Progress in American Bird Art, by George M. Sutton; Fifty Years of Bird Protection, by T. Gilbert Pearson; Ornithological Education in America, by Arthur A. Allen; and Fossil Birds, by Alexander Wetmore, with an introduction and the chronology. The book was planned by a Committee consisting of Frank M. Chapman and T. S. Palmer who with the assistance of Witmer Stone supervised its publication. It is uniform in every way with 'The Auk' but is issued as an independent publication.

Owing to the financial situation it was found impossible to distribute this volume to all members of the Union, as was at first intended, and it has been necessary to sell it at a nominal price of one dollar. It may be ordered from W. L. McAtee, 200 Cedar St., Cherrydale, Va., and it is hoped that every member will secure a copy, not only for his own gratifica-

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[1] Fifty Years' | Progress | of | American Ornithology | 1883–1933 | Published by the American Ornithologists' Union | on the occasion of its Semi-Centenial | Anniversary, New York, N. Y. | November 13–16, 1933 | Lancaster, Pa. 1933 | Pp. 1–249 with frontispiece plate. Price $1.00 from W. L. McAtee, 200 Cedar St., Cherrydale, Va.

[An edition of 500 copies was issued on November 13 and a second edition of 500 copies on December 26 containing some slight corrections.]

tion but so as to cover in part the cost of publication and thereby help to tide 'The Auk' over these days of depression.—W. S.

Chapman's 'Autobiography of a Bird-Lover.'[1]—To those with the proper appreciation of bird study the biography of an ornithologist must always have as great an interest as an ornithological biography and of books of the former type none will excite greater interest or be more generally read as the years pass by than the volume before us. When we realize the errors into which a biographer may unwittingly fall we feel deeply grateful to those who, like Dr. Chapman, have prepared their own biographies and have given us not only the facts of their lives but their personal reactions to them.

Dr. Chapman's ability as a writer and speaker is well known and his command of the English language has been equalled by no American ornithologist save Elliott Coues. We find in his autobiography, therefore, beautiful composition and fascinating pen-pictures of nature as well as the scientific and historical data that constitute the basis of his book.

One is deeply impressed with the singleness of purpose that has marked his life; his object was the study of birds; his aim to become an ornithologist; and his story demonstrates the fullness of his achievement.

He seems to have come to the American Museum of Natural History at exactly the right time for developing the career which he had always, perhaps unconsciously, in mind, and year after year he realized with uncanny accuracy the needs of ornithology and promptly met them.

His 'Handbook,' for the latest edition of which he has just received the Brewster Medal, was just what the rising generation of bird students needed; his advocacy of bird protection and popular education in this field met with instant response from all bird lovers; and 'Bird Lore,' the magazine that he conceived, became their mouth piece.

At the museum he advocated and developed the new ideas in exhibition and personally secured the material for the bird habitat groups that grace the halls. With these successes he turned to more serious scientific work planning and executing the ornithological surveys of South America, the results of which have established his reputation as an ornithologist throughout the world.

All these experiences are described in his autobiography. The delightful accounts of his travels in the tropics, of his meetings with foreign ornithologists at the International Congresses, and with many other notable characters outside of the ornithological circle, furnish interesting reading for the general public; the ornithologist with a fuller understanding of the subject will delight in a more careful study of the book; and the young bird student will profit greatly by its perusal. One striking

[1] Autobiography | of a Bird-Lover | By | Frank M. Chapman | Curator of Birds in The | American Museum of Natural History | With Photographs by the Author; | Drawings and Four Color Plates by | Louis Agassiz Fuertes. | D. Appleton-Century Company, Incorporated, New York 1933. London. Pp. i–xiii + 1–420. Price $3.75.

feature that appears again and again in the volume is the author's love and affection for Louis Agassiz Fuertes, his companion on many trips, and whose untimely death made his life "never quite the same." His friendship and admiration for William Brewster is also beautifully expressed and the lives and characters of many others of the group that formed the American Ornithologists' Union are touched upon. Dr. Chapman has had wonderful opportunities but they are largely of his own making and it is a privilege to have his own account of them. Especially is this appreciated by the present reviewer who has followed Dr. Chapman's ornithological career from its very beginning. We were elected to the A. O. U. at the same meeting, entered the respective institutions in which we have spent our lives on the same day, and a friendship then developed has continued unbroken for nearly fifty years.

Apart from its interest as an autobiography Dr. Chapman's volume constitutes one of the most important contributions to the history of American ornithology.

The book is handsomely gotten up with numerous half-tones, mainly from photographs by the author, and several color plates from paintings by Fuertes. There is also a bibliography of his principal publications, 1888–1932, comprising fourteen books and some 180 papers and notes.—W. S.

Bannerman's 'Birds of Tropical West Africa.'—We are pleased to announce the appearance of the third volume[1] of this splendid work, covering the groups from the Owls to the Woodpeckers and including all the "Picarian" families; the Passeres will be covered in the three remaining volumes.

The more we see of this work the more we are impressed with the excellence of its plan and the beauty of its execution. Twelve handsome color plates adorn the present volume from paintings by Major Henry Jones (8), George Lodge (3) and H. Grönvold (1), while the last mentioned has contributed many line drawings and half-tones to the text, some of these showing birds in flying positions and other attitudes not often attempted. He is also responsible for the excellent drawings of heads, feet, etc., used in the illustrated key which is an admirable feature of the work.

The text is even fuller than in the preceding volumes and contains a vast amount of new information contributed by many recent explorers or resident naturalists who have placed their field notes at Mr. Bannerman's disposal. Full use has been made of the publications of American authors, notably, Drs. J. P. Chapin, Herbert Friedmann and Glover M. Allen.

West Africa will always hold a place in the interests of American ornithol-

[1] The | Birds of Tropical West Africa | With Special Reference to those of the Gambia, | Sierra Leone, the Gold Coast and Nigeria | By | David Armitage Bannerman | M.B.E., M.A. (Cantab.), F.R.S.E. | [etc., etc.] | Map and Coloured Plates | Volume Three | Published under the Authority of the Secretary of State for the Colonies by the Crown Agents for the Colonies, 4 Millbank, Westminster, London, S. W. 1, 1933. Pp. i–xxxv + 1–487, pll. I–XII + Map. Price 22s 6d.

ogists because of Cassin's early studies of the Du Chaillu collections which are still preserved in the Philadelphia Academy.

We again offer our congratulations to Mr. Bannerman upon the completion of another volume of his notable work.—W. S.

Kuroda's 'Birds of the Island of Java.'—Dr. Nagamichi Kuroda has, during the past year, achieved a long cherished desire in the publication of the first volume of his 'Birds of Java.'[1] His attendance at the Fourth Pacific Congress at Batavia in 1925 gave him an opportunity to obtain a good nucleus of a collection of Javanese birds to which he has ever since been making additions by exchange and purchase. The collection, with a study of the literature, forms the basis for the present sumptuous work which is printed in English but published in Japan.

The book is of large size, ten by fifteen inches, and contains fourteen colored plates and an outline map. One of the plates, representing the Pittas and the Broadbill, is by the author's fourteen-year-old son, Nagahisa Kuroda, while the others are by Shigekazu Kobayashi, generally acknowledged to be the leading bird artist in Japan. His figures are, as usual in such works, necessarily crowded—often ten to fifteen to a plate —but are excellent representations of the birds.

The present book treats entirely of the Passeres leaving the other groups for the second volume. There are keys to the genera and species, full descriptions, geographic distributions, synonymy for Java, and lists of allied races; also in many cases field notes, frequently quoted from those who have had personal experience with the birds.

The book is excellent in its plan and execution and will be our standard work of reference for the birds of this island for many years to come. Ornithologists owe Dr. Kuroda a debt of thanks for his energy and labor in providing this much needed publication.—W. S.

Phillips's 'Sportsman's Second Scrapbook.'—Five years ago we noticed a book by Dr. Phillips presenting a series of shooting experiences and now we have before us a companion volume[2] equally readible and gotten up in the same sumptuous style, beautifully printed and with delicate line illustrations and a portrait of a favorite dog by Ripley.

All that we said of the former volume is true of the present one which treats of various New England trips from the woods of Maine to the sands of Muskeget, together with hunts—in Arizona for Mountain Lions, Pamlico Sound for water fowl; Kartoum and Kenya for African game and Donegal for the Red Grouse. Several of the sketches have already appeared in various journals, but will be read again with interest. Chapter VII presents the author's seven years experience as chairman of the Massa-

[1] Birds | of the | Island of Java | By | Nagamichi Kuroda D. Sc. | etc. | Vol. I: Passeres | with 14 plates and 1 map | Published by the Author | Tokyo | 1933. Pp. 1–370.

[2] A Sportsman's | Second Scrapbook | By | John C. Phillips | with Illustrations by | A. L. Ripley. Boston and New York, Houghton Mifflin Company. The Riverside Press, Cambridge. 1933. Pp. 1–198.

chusetts Fish and Game Association and should be read by all who aspire to active participation in this field or who would know the problems that confront conservationists.—W. S.

Caum's 'Exotic Birds of Hawaii.'—Mr. Edward L. Caum, a former member of the Delaware Valley Ornithological Club, but a resident of Hawaii, has prepared an interesting list[1] of exotic birds which have at one time or another been introduced into the Hawaiian Islands. As is generally known the native birds have been driven back into the mountains by the cultivation of the lowlands and a number nearly or quite exterminated. While it is natural that the introduction of exotic species should aggravate this condition it is not generally known how many foreign species have actually been introduced. Fortunately most of these have so far failed to gain a permanent foothold but of those introduced in the last few years it is as yet impossible to say what their status may be.

According to Mr. Caum's list ninety-six species have been liberated in the islands of which twenty-eight were Passerine birds, twenty-seven upland game birds and eighteen Doves. Some sixteen or eighteen have become established more or less abundantly. They have come from all parts of the world and curiously enough some of them have been brought from countries where they had been previously introduced from elsewhere, as for instance the European Skylark which was imported from New Zealand!

Mr. Caum has done an excellent piece of work in recording these introductions before it was too late to get their history and even as it is he encountered no little trouble in running down the origin of some of the species.—W. S.

Mrs. Bailey on Birds of the Mammoth Cave Region.[2]—The September, 1933, issue of 'The American Midland Naturalist' is devoted entirely to Vernon Bailey's report on cave life in Kentucky, an interesting review of the forms of life to be found in and about the caves especially the famous Mammoth Cave. There is a brief account of the caves and a list of the forest trees of their vicinity, following which are full accounts of the vertebrates of the region—the mammals, reptiles and amphibians by Mr. Bailey and the birds by Mrs. Bailey, and finally an account of some of the invertebrates by Leonard Giovannoli.

Mrs. Bailey considers about ninety-five of the birds most likely to be found by tourists in the vicinity of Mammoth Cave and which were actually seen there during the season of 1929. While no formal descriptions of the species are given there are statements of the character and time of their

[1] The Exotic Birds of Hawaii. By Edward L. Caum. Bernice P. Bishop Museum, Occasional Papers, Vol. X, No. 9. 1933. Pp. 1–55.

[2] Cave Life of Kentucky Mainly in the Mammoth Cave Region. By Vernon Bailey with Chapters on the Birds by Florence Merriam Bailey and on the Invertebrates by Leonard Giovannoli. September 1933. The Amer. Midland Nat., Vol. XIV., No. 5, September, 1933. Pp. 395–635, text figs. 1–90. Price $1.25. Apply Editor Amer. Midland Nat., Univ. of Notre Dame, Notre Dame, Indiana.

occurrence with interesting bits of life history gleaned from other publications or from the author's personal experiences, forming a very readible and instructive account which cannot but prove of value to visitors to what we trust may soon become another of our National Parks. The Baileys have prepared similar admirable guide books or reports on the natural history of parks that have been already established and the present publication should emphasize the importance of saving this region for the tourist and naturalist.—W. S.

Lowe on the Primitive Character of the Penguins.—In this important and interesting paper[1] Dr. Lowe presents the results of his studies of the pterylosis of the Penguins; of the character of their tarso-metatarsus; of the fore limb—both recent and fossil; together with embryological and myological data.

His conclusions with regard to the ancestry of these peculiar birds are that they are not degenerate flying birds but have sprung independently from a common generalized ancestor, probably some bipedal dinosaur, and from the very beginning have been specialized for an aquatic life. He would therefore divide recent birds into three subclasses "(1) a true aquatic [group], represented solely by the Penguin; (2) a cursorial [group], represented by such forms as the 'Ostriches'; (3) a flying [group], represented by the carinate division of birds."

He further points out that other swimming and diving birds, such as Auks, Grebes, Loons, etc., are merely flying birds, usually still able to fly, which have adapted themselves to an aquatic life. Their pterylosis is the same as in other carinate birds and their osteology even in the most modified forms is that of the true flying carinate type. "They swim and dive in spite of being flying birds." The Penguin on the other hand is the only true aquatic type having specialized directly from a primitive non-flying ancestor.

"The purely aquatic character of the Penguin" he writes, "has not, as far as I can gather, been noticed before. It seems to be one of those things which once said seems obvious enough; but it wanted saying." As Dr. Lowe points out it is hardly conceivable that the tremendous differences between the Penguins and carinate birds could have been brought about by adaptation of the latter to a purely aquatic life when we know from fossil evidence that such birds as the Loons have been swimming and diving since Eocene times with no striking modifications from the feathers or skeletal characters of the flying birds.

The detailed results of Dr. Lowe's studies form most interesting reading for anyone concerned with the phylogeny of birds.—W. S.

Ball's 'Jungle Fowls from Pacific Islands.'—This paper[2] of Dr.

[1] On the Primitive Characters of the Penguins, and their Bearing on the Phylogeny of Birds. By Percy Poycroft Lowe. Proc. Zool. Soc. London, 1933. Pp. 483–588, pll. I–VI., June 30, 1933.

[2] Jungle Fowls from the Pacific Islands. By Stanley C. Ball. Bernice P. Bishop Museum Bulletin 108. Pp. 1–121, pll. I–VII. Honolulu, Hawaii, 1933.

Ball's is based primarily upon the collection of ninety-two Jungle Fowl obtained by the Whitney South Sea Expedition in the Society Islands and the Marquesas and is chiefly concerned with the origin and relationship of the representatives of the genus *Gallus* on the islands of the South Pacific.

He has made extensive researches in the literature of the subject and quotes many pertinent remarks from the journals of the early explorers, as well as presenting in great detail descriptions of the several specimens and the results of pigmental studies of the feathers.

Prior to about 1840 it would seem that the fowls existing on these islands were the direct descendants of wild or partly domesticated birds brought by early Polynesians from the Malaysian region and were nearly typical *Gallus gallus* Linnaeus. Subsequent to this date, however, an increasing number of visitations from European vessels brought various strains of domestic fowls far removed in characters from the original Malay bird, from which all were of course descended, and this is responsible for the heterogeneity presented by the present island birds.

Dr. Ball finds no trace of the other wild Jungle Fowls of Ceylon, Java and India in the South Pacific birds and it would seem that only the Malay species was originally introduced. There is considerable variation in size among the birds studied and very great difference in color; some closely approach the coloration of the wild type, but the majority tend to melanism, to albinism, or to an increase in the distribution and intensity of the yellow pigment. All of the various color tints, however, are produced by two melanins and a yellow lipochrome.

Dr. Ball has presented a paper of importance and interest from at least three points of view: the historic, the geographic and the genetic. It will also answer many questions constantly being asked regarding the origin of domestic poultry.

Seven excellent color plates illustrate several types of plumage and the microscopic study of the feathers.—W. S.

Littlejohns' 'The Magic Voice.'[1]—Those who were fortunate enough to attend the Salem Meeting of the A. O. U. will remember Mr. Cope's account of the Lyre Bird and the motion pictures which he brought home with him from Australia, illustrating the success of the photographers of the Antipodes in making possible a knowledge of this remarkable bird to those unable to visit its haunts.

Mr. Littlejohns' attractive little book now presents his excellent photographs of the bird in the performance of its "dance" as well as views of its haunts while the author writes of his experiences in studying it.

The phonograph record which he has made of the song of the Lyre Bird is familiar to many and he has added a detailed timed description of this

[1] The Magic Voice. A Story of the Australian Lyre-Bird. By R. T. Littlejohns co-author of "Birds of our Bush" etc. Melbourne, Ramsay Publishing Pty. Ltd. 197–207 King Street. Pp. 1–40. 1933. Price 5 shillings, Robertson & Mullens Ltd. 107–113, Elizabeth St., Melbourne, Australia.

as well as a list of the bird songs which have been "borrowed" by this famous "mocker" in its vocal performance.

The book is beautifully gotten up, with a colored frontispiece and fourteen excellently reproduced photographs.—W. S.

Bowen on the Distribution of African Birds.—In a paper published in 1932 (see Auk, 1932, p. 501) Mr. Bowen discussed the life zones of Africa advancing the theory that they were primarily dependent upon temperature rather than upon rainfall as had been claimed. In the present contribution[1] he elaborates his discussion with many maps illustrating minimum and maximum temperatures for the various parts of the continent as well as rainfall, plant and bird distribution.

He concludes that the importance of the so-called West African Subregion with its heavy precipitation has been somewhat exaggerated; that a Subtropical and Temperate Zone are recognizable; and that the majority of the Ethiopian birds are distributed wholly within the bounds of the life zones that he has delineated. His paper is a valuable contribution to our knowledge of zoögeography.—W. S.

Duck Decline in the Northwest.[2]—This is a detailed account of a tour of inspection by an anonymous agent of the 'More Game in America Foundation' through the prairie Duck breeding region of North Dakota, Montana, Manitoba, Alberta and Saskatchewan, in July 1933.

"On the whole," says the report, "the duck breeding situation presented very gloomy aspects: water conditions were very bad; a number of large lakes have dried up completely or have been reduced to fractions of their former size . . . and of small water areas more than 80% have been claimed by agriculture and of the remainder about one-half were dry."

It is considered, however, that there are great possibilities for improving breeding grounds in agricultural areas but immediate action is necessary. The key to the situation seems to lie in the region north of the grain area, where the majority of various species now breed and this must be surveyed and the relative importance of its various sections determined.

The report is fully illustrated and should be studied by those interested in Duck preservation for as stated in the 'foreword' "the elimination of wild fowling as a field sport in America is not an impossibility . . . and has been approaching for the past twenty years but the pace has increased tremendously in the past three. Despite all enactments the birds have continued to decrease."—W. S.

Bennitt's Missouri 'Check-List.'[3]—How many more expensively illustrated state bird books will be published remains to be seen but there will always be need for such excellent state "lists" as are exemplified by Prof. Bennitt's for the state of Missouri.

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[1] African Bird Distribution in Relation to Temperature and Rainfall. By W. Wedgwood Bowen, Ecology, XIV, No. 3, July, 1933. Pp. 247–271.

[2] The Duck Decline in the Northwest. In two parts, "More Game in America," 500 Fifth Ave., New York City.

[3] Check-List of the Birds of Missouri. By Rudolf Bennitt, Ph.D., Univ. of Missouri Studies, VII, No. 3, July 1, 1932. Pp. 1–81.

He lists 396 species and subspecies with 57 more in the hypothetical list of forms likely to occur. No less than 27 are here reported in Missouri for the first time.

The character of occurrence of each bird is given in symbols such as "CSR" for common summer resident but as the remainder of the line is almost always left blank, this statement could easily have been printed in full with no extra expense and saved the user of the list the annoyance of consulting the key to the symbols.

All important records are given in detail and foot notes explain many questionable occurrences. The nomenclature follows the A. O. U. Check-List and the A. O. U. numbers are quoted before the names, which is rather confusing as they are now completely out of sequence and are only retained for the use of egg collectors who have used them in marking many thousands of specimens. Many important corrections to ranges given in the 'Check-List' are presented and this, it seems to us, is one of the most important functions of a good state list.

Prof. Bennitt is to be congratulated upon an excellent piece of work, well conceived and well printed.—W. S.

DuMont's 'List of the Birds of Iowa.'—This is another excellent up to date state list[1] taking the place of R. M. Anderson's 'Birds of Iowa' published nearly thirty years ago. Omitting synonymy and original references, which are readily available in more general works, the author presents the status of each species in Iowa, with abundant brief extracts from previous publications and original data on the occurrence of the rare species or on the distribution of others.

There is no attempt at life histories or descriptions the work being simply a faunal list of the sort that serves well as a work of reference and as the basis for future A. O. U. Check-Lists.

References in the text are made to authors by name and date and a bibliography furnishes the further details. There is a hypothetical list of species likely to occur in the state and a list of thirteen species of Anderson's list not accepted for one reason or another. The list contains 364 species or subspecies as against 354 in Anderson's publication.

Mr. DuMont has done an excellent piece of work.—W. S.

Greene's 'Birds of the Atlanta, Georgia, Area.'[2]—Georgia is one of the few states without a satisfactory bird list so that such a paper as Mr. Greene has published and Prof. Burleigh's recent summary of the birds of the State College Campus at Athens (see Auk, 1927, p. 457) are particularly welcome.

In the present list 208 species and subspecies are given with 24 additional

[1] A Revised List of the Birds of Iowa. By Philip A. DuMont. University of Iowa Studies in Nat. Hist. XV, No. 5. 1933. [Received Dec. 1, 1933 but cover dated Feb. 1, 1934!] Pp. 1–171. Price $1.00.

[2] Birds of the Atlanta, Georgia, Area, Distribution, Migration and Nesting. By Earle R. Greene Bull. No. 2, Georgia Society of Naturalists. Printed by the Society, Atlanta, Ga., Nov. 1933. Pp. 1–46. Price $1.00.

forms from points just beyond the limits of the area. The character of occurrence of each is given with dates of observation or migration and something about nesting etc. There are two maps and several half-tones of characteristic localities.

Mr. Greene's list will be of great help to bird students in Atlanta and vicinity as well as to others desiring to ascertain the status, in Georgia, of wide ranging species. May we hope that it is the forerunner of a list covering the birds of the entire state for the compilation of which the author seems admirably qualified?—W. S.

Ganier on the 'Water Birds of Reelfoot Lake.'—This paper[1] is one of a series dealing with the natural history of Reelfoot Lake, in western Tennessee, a curious body of water caused by the famous New Madrid earthquake of 1811–12. Recently the entire area including the lake has been acquired by the state and is conserved as a park while the Tennessee Academy of Sciences has established a biological laboratory there.

Samuel N. Rhoads, of the Delaware Valley Ornithological Club, published apparently the first account of the birds of the lake, in 1895, and Mr. Ganier has added much to our knowledge of its avifauna in more recent years.

In the present paper he brings the study of its water birds up to date listing 59 species with interesting comments on occurrence and habits.—W. S.

Other Ornithological Papers.

Bailey, Alfred M.—Along Audubon's Labrador Trail, Bird Study Today and a Century Ago. (*Natural History*, Nov.–Dec., 1933.)

Bishop, Louis B.—Two Apparently Unrecognized Races of North American Birds. (*Proc. Biol. Soc. Washington*, Vol. 46, pp. 201–206, October 26, 1933.)—*Hylocichla guttata dwighti* (p. 201) Priest Lake, Idaho; *Lanius ludovicianus miamensis* (p. 203) Dade Co., Florida.

Bruce, R. Stuart.—Some Notes on Birds seen in Shetland. (*Scottish Nat.*, Sept.–Oct. 1933.)

Carr, William H.—Peter Poses. Ways of a Trailside Flicker. (*Natural History*, Sept.–Oct., 1933.) Many photographic illustrations.

Dabbene, Roberto.—Notas sobre Las Especiis Argentinas del Genero "Phrygilus." (*An. de la Soc. Argent.*, CXV, pp. 169–222, 1933.)—The Argentine species and subspecies of *Phrygilus* are arranged in three genera *Melanoderma*, *Phrygilus* and *Corydospiza*, with full descriptions, synonymy, keys and tables of measurements. No new names are proposed. [In Spanish.]

Dovey, E. H.—Supposed Blue Grosbeak seen at Chatham, Ontario in 1923. (*Canadian Field Nat.*, Oct. 1933.)—May 18.

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[1] Water Birds of Reelfoot Lake. By Albert F. Ganier. Jour. Tennessee Acad. Sci., VIII, No. 1 (The Reelfoot Lake Number), Jan. 1933. Pp. 1–94.

Friedmann, Herbert.—The Cuban Race of the Snail Kite *Rostrhamus sociabilis* (Vieillot). (*Proc. Biol. Soc., Washington*, Vol. 46, pp. 199–200, October 26, 1933.)—*R. s. levis* (p. 199).

Friedmann, Herbert.—A New Wood Owl from Mexico. (*Proc. Biol. Soc. Washington*, Vol. 46, pp. 151–152, October 26, 1933.)—*Ciccaba virgata amplonotata* (p. 151) Mazatlan, Mex.

Furniss, O. C.—Observations on the Nesting of the Killdeer Plover in Central Saskatchewan. (*Canadian Field Nat.*, Oct. 1933.)

Lincoln, Frederick C.—A Decade of Bird Banding in America: A Review. (Smithsonian Report for 1932, pp. 327–351.)

Lynes, Hubert.—Ornithology of the "Cercle d' Azilal" in Central Morocco. (*Mem. Soc. Sci. Nat. du Moroc.*, No. XXXVI, May 31, 1933, pp. 1–57.)—An account of a trip made in 1925 with an annotated catalogue of the species observed and some conclusions as to life zones, etc., of Morocco.

Marelli, Carlos A.—Los Vertebrados Exhibidos in los Zoologicos del Plata. (La Plata, 1931, pp. 1–272, pll. I–LXXXIV.)—List of vertebrates exhibited in the La Plata Zoo. With half-tone illustrations Birds, pp. 73–183, 484 species. [In Spanish.]

Mayr, Ernst.—Birds Collected During the Whitney South Sea Expedition. XXV (*Amer. Mus. Novitates*, No. 651, August 14, 1933, pp. 1–20). Notes on the Genera *Myiagra* and *Mayrornis*.—Three new forms of each genus. XXVI (No. 665, October 5, 1933).—Notes on *Neolalage banksiana* (Gray). XXVII (No. 666, October 7, 1933).—Notes on the Variation of Immature and Adult Plumages in Birds and a Physiological Explanation of Abnormal Plumages.—Finds two types in first year plumages in *Neolalage* one a retarded the other a progressive but with no clear-cut division between them. The "progressiveness" of individual feathers depends largely upon the time of molt, the earliest being least like adult feathers. It is often difficult to distinguish first year birds in "progressive" plumage from adults in "retarded" plumage. There is finally a discussion of the physiology of immature and adult feathers.

Merriman, R. O.—The Behaviour of a Land Bird at Sea. (*Canadian Field Nat.*, Oct. 1933.)—White-throated Sparrows carried nearly across the Atlantic.

Miller, Alden H.—The Canada Jays of Northern Idaho. (*Trans. San Diego Soc. Nat. Hist.*, VII, No. 25, pp. 287–298, October 6, 1933.)—*Perisorens canadensis bicolor* (p. 294) described as new from Boundary Co., Idaho.

Percy, Lord William.—A Bird with a Powder Puff. (*Natural History*, Nov.–Dec. 1933.)—A remarkable series of photographs of the European Bittern.

Riley, J. H.—Descriptions of Two New Birds from Southeastern Siam. (*Proc. Biol. Soc. Washington*, Vol. 46, pp. 155–156, October 26, 1933.)—*Ixos canescens* (p. 155), *Corythocichla brevicaudata cognata* (p. 156).

Schaanning, H. Tho. L.—Birds from Arctic North America. (*Med.*

fra det Zool. Mus., Oslo, No. 33, 1933.)—Ornithological results of the Fram Expedition 1898–1902 and the Gjtha Expedition 1903–1907; an annotated list of forty species from Ellesmere Land, King William Land, King Oscar Land, etc. [In English.]

Stoneham, H. F.—A Note on the Races of *Chalcomitra senegalensis* and a Proposed New Race. (*Bull. Stoneham Mus.* No. 14, April 1933.)—*C. s. erythrinae* (p. 3) Kenya Colony.

Stone, Witmer.—Zoological Results of the Dolan West China Expedition of 1931. Part I, Birds. (*Proc. Acad. Nat. Sci. Phila.*, LXXXV, pp. 165–222, October 5, 1933.)—An annotated list of 309 species from Szechwan and Yunnan including discussion of plumages. Such rare forms as *Ibidorhynchus*, *Boanerges* and *Urocynchramus* were obtained and also the hitherto undescribed female of *Larvivora obscura*.

Sumner, E. Lowell, Jr.—The Growth of Some Young Raptorial Birds. (*Univ. of Calif. Publ. in Zool.*, Vol. 40, No. 4, pp. 277–308, Nov. 6, 1933.)—A study of young of *Bubo*, *Tyto* and *Aquila*. Temperature, weight, food consumption, bone measurements and feather development are considered.

van Rossem, A. J.—The Types of Three Birds Described from California. (*Trans. San Diego Soc. Nat. Hist.*, VII, No. 29, pp. 345–346, Nov. 22, 1933.)—The types of *Dryobates homorus* Cab. & Heine, *Cyanocitta superciliosa* Stickl and *Passerculus alaudinus* Bonap. were examined in European museums by Mr. van Rossem. The second proves to be *Aphelocoma californica immanis* Grinnell and will replace that name while the last similarly replaces *P. sandwichensis bryanti* Ridgw. The name of the bird formerly known as *alaudinus* awaits determination.

van Rossem, A. J.—A New Solitary Vireo from Central America. (*Trans. San Diego Soc. Nat. Hist.*, VII, No. 24, pp. 285–286, October 6, 1933.)—*V. solitarius montanus* (p. 285) Guatemala.

Van Tyne, Josselyn.—Native Bird Traps of French Indo-China. (*Scientific Monthly*, Dec. 1933.)

Watson, E. V. and A. D.—Observations on the Bird Life of Arran. (*Scottish Nat.*, Sept.–Oct. 1933.)

Wight, Howard M.—Suggestions for Pheasant Management in Southern Michigan. Dept. Conserv., Lansing Mich., August 1933, pp. 1–25.—An important work for those contemplating the raising of Ring-necked Pheasants.

Woodbury, Angus M.—Biotic Relationships of Zion Canyon, Utah, with Special Reference to Succession. (*Ecological Monographs*, III, pp. 147–246, April, 1933.)—An excellent ecological paper, mainly botanical but with some reference to vertebrates including birds.

Bailey, Alfred M. and Niedrach, R. J.—The Prairie Falcon. (*Amer. Forests*, Aug. 1933.)

The Ornithological Journals.

Bird-Lore. XXXV, No. 5. September–October, 1933.

The Roosevelt Bird Sanctuary—Our First Decade. By Eugene Swope.

The Baltimore Oriole: A Study of Its Nesting Habits. By E. D. Nauman.—Eighty-one nests in the vicinity of Sigourney, Iowa.

The Jones Beach Sanctuary: A Unique Experiment in Conservation. By Warren F. Eaton.

Land Birds in a Gale at Sea. By W. R. Furlong.—Blown by gales to a ship from 75 to 250 miles off the capes of the Chesapeake.

Dr. A. A. Allen presents the Crested Flycatcher's Story with his usual fine photographs.

Bird-Lore. XXXV, No. 6. November–December, 1933.

Bird-Notes from Bed. By Mark F. Emerson.—A delightful account of birds seen from an invalid's bed, at feeding shelf and bird bath with important observations on habits.

"I am a Partridge—Please Do Not Shoot." By Daisy Mills.—Account of a tame "wild" Spruce Partridge.

Dr. Allen presents 'The Flicker's Story' another of his bird autobiographies with the usual admirable photographs and the annual report of the Audubon Societies furnishes much important matter on bird conservation.

The Condor. XXXV, No. 5. September–October, 1933.

Nesting of the Wandering Tattler. By Joseph Dixon.—In the region of Yakutat Bay to Mt. McKinley; with photographic illustrations of birds and nest.

Seasonal Behavior of Some Banded Golden-crowned Sparrows. By E. L. Sumner, Jr.—Individuals trapped several times were stilll in "immature" plumage when at least eighteen months old.

Ages of House Finches Trapped During February, 1933, at Pasadena, California. By Harold and Josephine R. Michener.

Items from an Oölogist's Notebook. By John G. Tyler.—Interesting observations on habits, speed of flight, etc., to show that *some* oölogists are interested in what comes out of the egg as well as in the shell that covers it!

Further Notes on the Birds Parasitized by the Red-eyed Cowbird. By Herbert Friedmann.—Supplementary to paper in 'The Auk', 1931, pp. 52–65.

Geographic Variation in the Water-Thrushes. By T. T. McCabe and A. H. Miller.—*Seiurus noveboracensis limnaeus* (p. 196) is described as new.

The Condor. XXXV, No. 6. November–December, 1933.

Men and Birds in Joint Occupation of National Parks. By George M. Wright.—The adverse effect of man upon birds and vice versa are considered to be possible of easy adjustment but the extent to which "man's presence operates to the detriment of man's use of the wild life values" is a more difficult problem though "by no means hopeless."

Migratory Behaviour in Song Sparrows. By Margaret Morse Nice.—Migratory instinct functions in some individuals and is latent in others.

Arrival and Departure of Avian Visitants in the San Francisco Bay Region. By Amelia S. Allen.

Further Notes on the Birds of the Baboquivari Mountains, Arizona. By Allan R. Phillips.

The Wilson Bulletin. XLV, No. 3. September, 1933.

The Sandhill Crane in a Michigan Marsh. By Lawrence H. Walkinshaw. —With excellent photographs of nests and young.

Diurnal Activity of the Woodcock. By Marcia B. Clay.—Detailed observations of birds in the open during periods of drought.

The Present Status of Brewer's Blackbird in the Southeast. By Thomas D. Burleigh.—Winter records for North Carolina and Georgia.

Family Life of a Pair of American Pipits. By Hazel S. Johnson.—At Wolf Bay, Labrador coast.

Influence of the Great Lakes on the Migration of Birds. By Ralph Beebe.

The Nesting and Life Equation of the Bob-White. By Paul L. Errington. —In Wisconsin.

Bird-Banding. IV, No. 4. October, 1933.

The Migratory Movements of Certain Colonies of Herring Gulls in Eastern North America. By Richard J. Eaton.

State Distribution of Returns from Banded Ducks, V. By Frederick C. Lincoln.

The Status of Cape Cod Terns in 1933. By O. L. Austin, Jr.

The Oölogist. L, No. 9. September, 1933.

Nesting Dates for Hinds County, Miss., and California.

The Migrant. IV, No. 3. September, 1933.

Winter Birds of Northeastern Tennessee. By Bruce P. Tyler and Robert B. Lyle.—An annotated list.

A Territory and Mating Study of Mockingbirds. By Mrs. F. C. Laskey.

Iowa Bird Life. III, No. 3. September, 1933.

Summer Bob-white Observations in a City Backyard. By Paul L. Errington.—In Des Moines, Ia.

Spring Arrival Dates for Sioux City, Ia. By Wm. Youngworth.

The Nebraska Bird Review. I, No. 2. April, 1933.

A Comparison of the Bird Faunas of the Pampas of Argentina and the Plains of Nebraska. By Lawrence Bruner.

Exact Type Localities of Birds Discovered in Nebraska by Thomas Say on the Long Expedition. By Myron H. Swenk.

A History of Nebraska Ornithology, I. The Ancient Period. Fossil Birds. By Myron H. Swenk.

The Nebraska Bird Review. I, No. 3. July, 1933.

Local Bird Banding. By Susie Callaway.

A Brief Synopsis of the Birds of Nebraska I. The Loons. By Myron W. Swenk.

The Nebraska Bird Review. I, No. 4. October, 1933.

The Present Status of the Whooping Crane. By Myron W. Swenk.—An exhaustive article with bibliography.

A Brief Synopsis of the Birds of Nebraska II. Grebes. By Myron W. Swenk.

All three issues are replete with local notes, migration records, etc.

The Gull. XV, Nos. 4 to 9. April to September, 1933.

Devoted to the activities of the Audubon Society of the Pacific, with numerous local lists for California and Utah.

Bulletin of the Essex Co. [Mass.] Ornithological Club. No. 14. December, 1932.

Notes on Essex County Birds in the Jeffries Collection. By Ludlow Griscom.—An *Empidonax* intermediate between *E. difficilis* and *flaviventris*, or at least not identifiable as either! Also a specimen of *Dryobates p. nelsoni* and *Acanthis l. rostrata*.

Birds Seen in Four Trans-Atlantic Voyages. By Charles W. Townsend. Ipswich River Bird Trip. By Ralph Lawson.—102 species.

The Shooting Season of 1932 in Essex County. By Edw. Babson.

Annotated List of Birds Observed During 1932. By S. G. Emilio.

The Raven. IV, No. 7. July, 1933. [Mimeographed.]

The Loggerhead Shrike, a New Bird for Virginia.

A List of Virginia Types. Numerous local notes in this and in No. 8–9.

The Snowy Egret. VIII, No. 1. Summer, 1933. [Mimeographed.]

Numerous records and migration data for Michigan.

Saint Louis Bird Club Bulletin. II, No. 3, 4 and 5. March, April and May, 1933. [Mimeographed.]

Local notes and ornithological activities in Missouri.

News from the Bird Banders. VIII, Nos. 2 and 3. April and August, 1933. [Mimeographed.]

Much valuable information on bird banding in California with an interesting review of 'coöperative ornithology' (August).

The Flicker. V, Nos. 2 and 3. May and October, 1933. [Mimeographed.]

Many notes on Minnesota birds with a well annotated list of nesting species of 1933. By Ralph Woolsey.

The Ibis. (13th. ser.) III, No. 4. October, 1933.

A Contribution to the Ornithology of Bulgaria. By James M. Harrison.

The Birds of Northern Portugese East Africa. Pt. I. By Jack Vincent.—Report of the British Museum Expedition of 1931–32.

On Some Struthious Remains. By Percy R. Lowe.

A Contribution to the Ornithology of Chinese Turkestan, Pt. III. By F. Ludlow and N. B. Kinnear.

Lynes-Vincent Tour in Central and West Africa in 1930–31. By H. Lynes and W. L. Sclater.

Revision of the Group *Tchitrea affinis* Blyth. By Finn Solomonson.—*T. a. saturatior* (p. 732) Bhutan, *T. a. indochinensis* (p. 734) Cambodia, and *T. a. burmae* (p. 736) Lower Chindwin are described as new.

Systematic Notes on East African Birds. By C. W. Mackworth-Praed and Claude H. B. Grant.—Plumages and color phases of several species.

Birds of the Southern Sahara and Adjoining Countries in French West Africa Pt. I. By George L. Bates.

Bulletin of the British Ornithologists' Club. No. CCCLXXI. October 31, 1933.

Col. Meinertzhagen described migration on the island of Ushant, off Brittany, and Dr. Finn Salomonsen the montane avifauna of central Madagascar.

Grant and Mackworth-Praed show that the proper name for the European and African Greater Flamingo is *Phoenicopterus ruber roseus* Pallas and its type locality mouth of the River Volga, Caspian Sea. The name *antiquorum* is a nomen nudum and *major* a synonym of *ruber*.

Vincent decides that the type locality of the Vulturine Guinea-fowl is Pangani Dist., Tanganyika Terr.

Eight new races of birds are described from India, Tanganyika, Arabia and Syria and some new names proposed by Mathews for Petrels including a new genus *Attaprion* (p. 25) for *Procellaria desolatus* Gm.

Bulletin of the British Ornithologists' Club. No. CCCLXXII, November 25, 1933.

Devoted mainly to the annual address of the chairman Mr. David A. Bannerman.

Tchitrea viridis restricta (p. 48) Nkose Island, Victoria Nyanza, is described by Finn Solomonsen.

British Birds. XXVII, No. 4. September, 1933.

Field Notes on the Little Grebe. By P. H. Trahair Hartley.

Notes on 'Sexual Chase in the Starling'; 'Unusual Nesting-sites of the Fulmar Petrel,' etc.

British Birds. XXVII, No. 5. October, 1933.

Some Habits of the Stone-Curlew. By G. Bird.—With remarkable close up photographs.

Some Habits of the British Woodpeckers. By N. Tracy.

British Birds. XXVII, No. 6. November, 1933.

The Grassholm Gannets. By H. Morrey Salmon and R. M. Lockley.—An interesting résumé of counts and estimates and a very careful census by the authors. Up to 1914 there were never more than 300 pairs nesting on the island which is only 22 acres in extent and lies off South Wales. At present there are 4750 occupied nests. Excellent photographs of the colony are presented.

The Association of Birds and a Moor Grass on the Pennines in Winter. By John Armitage.—Found to frequent patches of *Molina caerulea* which covers saturated upland pastures in the Lancashire moors, while absent in drier areas.

The Oölogists' Record. XIII, No. 3. September, 1933.

Field Habits and Nesting of the Dartford Warbler. By D. Nethersole-Thompson.

Notes on the Anatomy and Breeding Habits of Crossbills. By T. T. and E. B. McCabe.—Republished from 'The Condor.'

Rules of the British Oological Association.

The Avicultural Magazine. XI, Nos. 9, 10, 11. September to November, 1933.

The Masked Grassfinch (*Poëphila personata*). By E. J. Boosey (No. 9) and the Red-eared Firetail (*Zonaeginthus oculatus*). By H. V. Highman (No. 10), both illustrated by colored plates by Cayley.

Some Reminiscences of a Collector. By Walter Goodfellow.—Experiences in Ecuador, Colombia, Brazil etc. (No. 9 & 11).

Notes on New Zealand Birds. By Sydney Porter.—An interesting account running through all three numbers.

Many notes on aviaries and aviculture including the breeding of the Blue-eared Pheasant in captivity.

Birds Notes and News. XV, Nos. 4, 5, 6 and 7. 1932–1933.

Covers activities of the Royal Society for the Protection of Birds with many papers on bird conservation in England and in Europe, the oil menace etc.; also: A German Bird Sanctuary by H. G. Alexander; Birds Seen on an Ocean Voyage by J. B. Watson; The Barn Owl in England by G. B. Blaker.—An interesting census showing that approximately 31000 owls die every year out of a possible 55000.

The Emu. XXXIII, Pt. 2. October, 1933.

The Large-billed Warbler (*Gerygone magnirostris*). By A. J. Marshall.—With color plate by Cayley.

The White-faced Storm Petrel. By A. G. Campbell.—A study of the nesting of *Pelagodroma marina* with the aid of banding.

The Green-backed Mangrove-Heron. By K. A. Hindwood.—Part 2. Powder-down Feathers.—Discusses the relative functions of powder-downs and oil gland but has apparently overlooked Law's paper on the latter (Condor, 1929, p. 148).

Birds of the Lake Grace District, W. A. By J. C. Carnaby.

Notes on the Great Black Palm Cockatoo. By E. A. D'Ombrain.—With photograph of a captive bird.

Numerous notes on various Australian birds with the usual excellent series of photographs.

Alauda. (Ser. 3), V, No. 2. April–June, 1913. [In French.]

The Altai Falcon—A Systematic Monograph. By G. Dementieff.

Extract from the Journal of Ornithological Observation at the Port of Geneva, 1932. By R. Poncy.

A Chapter on the Vision of Birds. By A. Rochon-Duvigne and Remarks on Some Corvidae. By N. Mayand.—On *Pyrrhocorax pyrrhocorax* and *P. graculus*, distribution, habits, variation, etc.

Local lists and notes for various parts of France.

Jynx torquilla incognita (p. 250) from source of Houan-hé Ruin is described as new by W. S. Stachanow.

L'Oiseau. III, No. 3. 1933. [In French]

Systema Avium Rossicarum. I. Accipiters. By G. P. Dementiev.—A check-list of the birds of Russia with detailed distributions.

Revision of the Genera *Euplectes* and *Vidua*. By J. Delacour and F. Edmond-Blanc.—Seventeen forms of *Euplectes* are considered in this instalment.

Bird Life of the Upper Pyrenees. By Theresa Clay and R. Meinertzhagen.—An annotated list with discussion of migration.

A Critical Study of the Genus *Rhamphocoelus*. By J. Berlioz (cf. Griscom, Auk, 1932, p. 199.).

The Paradise Flycatchers of the Malgache Region. By Finn Salomonsen.—Nine forms recognized of which *T. desolata* (p. 613) from Maritius is described as new.

The Birds of Kwangsi. By K. Y. Yen. (Continued.)

Notes on Some Ducks. By J. Delacour.—The author has had 115 of the 180 known species living on his estate at Clires; nearly 100 at the present time.

Le Gerfaut. XXIII, Fasc. 2. 1933. [In French.]

Entirely devoted to a list of birds banded and recovered in Belgium in 1932.

Journal für Ornithologie. LXXXI, Heft 4. October, 1933. [In German.]

On the Breeding Habits of the Thuringian Owls (*Bubo b. bubo*). By W. Wächtler.—With excellent photographs.

On the Natural History of the Song Sparrow. A Biological Investigation with the Aid of Bird Banding. By Margaret Morse Nice. (Translated from the English manuscript by H. Desselberger).—To be continued.

Flying with and against the Wind. By Konrad Lorenz.

An Investigation of the Amount of Iron in the Liver of Diving Birds. By H. Scharnke.

Ornithologische Monatsberichte. XLI, No. 5. September, 1933. [In German.]

Bird Migration Observations in Okapanda, S. W. Africa. By W. Hoesch.

Preliminary Report of the Dresden Museum Zoological Expedition to the Matengo Highlands and Lake Nyassa. By W. Miese.—*Pternistes afer tornowi* (p. 142) Lake Nyassa and *P. a. tertius* (p. 144) Kitiniko are described as new.

Ornithologische Monatsberichte. XLI, No. 6. November, 1933. [In German.]

Observations on the Symbiotic Life of Bird Nests. By W. Lehnert.

Systematics of the Fish Owls. By W. Meise.—*Bubo blakistoni piscivorus* (p. 169) from Jakschi, Manchuria, described as new.

Many notes on the occurrence of birds in Germany in both numbers.

Der Vögelzug. IV, No. 4. October, 1933. [In German.]

Results of the Banding of Mallards at Ilmensee. By G. Doppelmair.—

44 birds banded at this Russian station were recovered all over western Europe from Germany to England and from Sweden to Italy; only one went east.

Finnish Migrant Birds from English Eggs. By I. Välikangas.—Mallard eggs taken from England and hatched in Finnland produced birds which migrated to France and other parts of western Europe.

Beiträge zur Fortpflanzungsbiologie der Vögel. IX, No. 5, September, 1933. [In German.]

Propagation and Breeding Habits of the Buzzard (*Buteo b. buteo*). By V. Wendland.

More Observations on the Flight-Play of *Accipiter gentilis marginatus*. By C. Demandt.

Bird Eggs and Nests from New Britain, South Sea. By P. O. Meyer.

Many notes on nests and breeding of European birds.

Beiträge zur Fortpflanzungsbiologie der Vögel. IX, No. 6. November, 1933. [In German.]

On the Biology of the Penduline Tit (*Remiza pendulina*). By A. P. Damlowitsch.

On the Breeding Habits of *Accipiter gentilis* and *A. nisus*. By E. Christoleit.

Vögel ferner Länder. VII, Heft 2 and 3, 1933. [In German.]

Accounts of the rearing in captivity of various birds, among others the Parrots *Agapornis fischeri* and *pullaria*, the Manchurian and Blue-Eared Pheasants and the Burrowing Owl. Also an account of the distribution of several groups of African Weaver Birds.

Der Ornithologische Beobachter. XXX, Heft 10, XXXI, Heft 1 and 2. [In German or French.]

A Contribution to our Knowledge of the Bittern in Switzerland by V. A. Corti (Heft 10).

Observations on a Black Stork's Eyrie. By C. Stemmler (Heft 2).

Many notes on Swiss birds.

Archives of Swiss Ornithology. I, Fasc. 3. July, 1933. [In French.]

The Cevennes and the Massif Central. By O. Meylan.—"An ornithological study of a mountain region" of France. Several maps and a well annotated list.

Organ of the Netherlands Ornithological Club. V, No. 4, VI, Nos. 1 and 2. [In Dutch.]

The Avifauna of Urk. By C. G. B. Ten Kate and P. G. Op de Coul (No. 4).

Results of Banding Starlings. By J. P. Bouma and J. C. Koch. (No. 1).—Birds banded in Holland recovered in England, France, Germany etc., and one in Tunis, North Africa.

The Species and Races of the Genus *Jynx*. By Snouckaert van Schauburg. (No. 1).

Numerous notes on the birds of the Netherlands.

Ornis Fennica. X, No. 2. May, 1933. [In Finnish.]

On the Action of the Legs of *Muscicapa striata* and *Hippolais icterina* and its Effect on their Ecology. By P. Palmgren.

Observations on Time of Song Commencement. By A. Th. Böök.

On the Food of the Eagle Owl (*Bubo bubo*). By B. Olsoni.

Kocsag. VI, Szam 1–2. 1933. [In Hungarian, German, etc.]

A Contribution to Our Knowledge of the Avifauna of Petsamo and Finnish Lapland. By I. Hortling. [In German.]

Spiders as Bird Food. By G. v. Kolosvary. [In German.]

An Eyrie of the Hobby (*Falco subbuteo*). By A. von Viczian. [In Hungarian.]

Passer montanus boetticheri subsp. nova. By W. S. Stachanow. (p. 31. from Jakutsk.) [In German.]

Numerous notes on Hungarian birds.

Norsk Ornithologisk Tidsskrift. XIII. 1932. [In Norwegian.]

The Barn Owl New to Rogaland. By H. T. L. Schaanning.

What Forms of Guillemot Inhabit Norway. By Finn Solomonsen.—Recognizes eight subspecies of *Uria aalge* in all, five of which seem to have occurred in Norway.

Does the Goshawk Take Fresh and Adult Hares? By T. Schaanning.

Extreme Types of Variation. By H. T. L. Schaanning.—Melanistic *Uria grylle* and *Alca torda* among others.

Danske Fugle. XIV, Bd. 4. 1933. [In Danish.]

Mainly concerned with bird banding records.

El Hornero. V, No. 2. July, 1933. [In Spanish.]

Argentine Anatidae. By J. Casares.—Descriptions and habits.

Birds of the Valley of Reartes, Cordoba. By A. Castellanos.

The Weight of Birds. By A. Fiora.—Weights of 86 species of Argentine birds.

Breeding of Argentine Species of *Aglaius*. By J. A. Pereyra.

Birds Observed in the Province of Buenos Aires. By C. A. Marelli.

Observations on the Nest of *Phloeocryptes melanops*. By E. J. MacDonagh.

Observations on Parasitism of *Molothrus bonariensis*. By A. Renard.

Numerous notes on birds of Argentina.

CORRESPONDENCE.

Semi-centennial Greetings, Deutsche Ornithologische Gesellschaft.

Berlin, N4, October 24, 1933.

Semi-centennial Jubilee Meeting A. O. U., Washington, D. C.

The Deutsche Ornithologische Gesellschaft presents to the American Ornithologists' Union its warmest congratulations on the celebration of the fiftieth year of its existence. Ornithologists of Germany have followed with great satisfaction the unexampled rapid development of ornithology in America since the founding of the A. O. U. The time has long since passed in which great national societies can pursue their own ways unconcerned with one another. Whoever follows the literature knows that it is often the complexity of changing investigations which accelerates progress. It is certain that this international exchange of knowledge in ornithology has gained in importance as our knowledge interwoven with natural development strives to progress from knowledge to comprehension and from details to generalities. The ornithologists of America in their investigations published in 'The Auk' have influenced the ornithologists of Germany toward the end of the last century with their views determining the character of geographic variation, and we owe to them the blessing of trinomial nomenclature. Thus have the names of two of the most worthy pioneers of this movement, Professor Spencer Fullerton Baird and Dr. J. A. Allen found their place in the list of Honorary Members of the D. O. G. formerly occupied by George Ord and John Cassin. In recent times it is certain that we have learned much from American contributions in the realms of ecology, experimental biology and the knowledge of behavior.

It will always be an honor to the Deutsche Ornithologische Gesellschaft, as the oldest ornithological union in the world, to remain in most friendly competition with her great American sister, to whom we wish great success in all time to come.

(Signed) Dr. O. Heinroth,
President.
Erwin Streseman,
General Secretary.

Wilson Ornithological Club.

(*Telegram.*)

Columbus, O., November 14, 1933

Dr. T. S. Palmer,
Secretary, American Ornithologists' Union.

Greetings from the membership of the Wilson Ornithological Club to the American Ornithologists' Union. Congratulations upon your fiftieth meeting and a sincere wish that your Semi-centennial Convention be a milestone of new success and achievement.

Lawrence E. Hicks
Secretary, Wilson Ornithological Club

Bird Population in England.

Editor of 'The Auk.'

In 'The Auk' for October, 1932, the reviewer of W. B. Alexander's paper 'The Bird Population of an Oxfordshire Farm' notes that the results of summer and winter counts show about two to three per acre at either season, and observes that they substantially agree with results obtained from similar counts in the eastern United States. He goes on to say that "this result shows that remarks as to the greater abundance of birds in England compared with this country have been prompted by enthusiasm rather than based on facts," and that "we can thank Mr. Alexander for debunking another portion of gush." I wonder if it is quite safe to make so sweeping a generalization from the census of a single 125-acre farm. When I visited England in the summer of 1930, I was prepared by my reading and by conversations with ornithologists who are not given to "gush" to find bird life more abundant there than in New England, and I was not at all disappointed. My experience was not confined to "the birds seen about a greenery embowered residence," but included walks and drives through farming country and woods and over heaths and sheep-pastures in Kent, Hampshire, Westmorland and Cumberland; and I have no hesitation in saying that birds everywhere were far more abundant than I should have found them in any normal July and August in New England. I had the pleasure of spending two days driving over the Lake Country with Mr. W. B. Alexander himself, and I am sure that we saw many more birds than I could have shown him in the same time here. I also remember very well his expressing the opinion that birds were more abundant in England than in any other temperate region in the world!

I may add that in a recent letter Mr. Alexander writes me that the area dealt with in his paper had, actually, very little diversity, consisting, as it did, of five grass fields with hedges around them and one small copse, and that he and his associates are making further censuses on a more diversified area which promise to give quite different results. It may be well to wait until these are published before we make any further comparisons between conditions in England and the United States.

Francis H. Allen

West Roxbury, Mass., May 9, 1933.

The Ten-year Index to 'The Auk.'

Editor of 'The Auk.'

For the past two years or more much of my spare time has been devoted to labor upon the fourth ten-year index to 'The Auk,' now completed. It is natural that one so occupied should scrutinize the journal (even the parts on which he is not laboring) from the standpoint of such a cataloger, that he should be critical of features that do not fit in with his labors, and that he might have suggestions to make toward lessening the work of future index makers.

There is one individual item in the ten volumes just indexed that seems to call for comment. That is Lincoln's 'A bibliography of bird banding in America.' Criticism, needless to say, is not directed toward the contribution itself but toward the method of handling. Issued as a supplement to 'The Auk,' it is separately paged and there is no satisfactory way of indicating in the 'Ten-year Index' the position of this bibliography in the series. The title page of the article bears the caption "Supplement to 'The Auk,' vol. XLV, 1928"; it appeared at the end of the October issue. Except for a passing comment in the text (p. 545), nowhere in the volume, in index, contents, or on the wrappers, is there any entry pertaining to it. Once removed, in the process of binding or otherwise there is nothing to indicate that a part is missing. Whatever the reason for inclusion of the bibliography in this form, it seems indefensible from the standpoint of the indexer. One such article in ten years need not in itself cause much trouble, but the precedent is so bad that it should not be allowed to stand without a protest. "Supplements" in similar form have appeared with other journals, it is true, but the custom is none the less objectionable on that account. Recently in my own institution I discovered quite by accident that one such supplement was missing from our file of a certain periodical, supposedly complete. It required separate purchase, the need had been overlooked, and there was nothing in the row of volumes on the shelf to show that there was a gap. In the particular bibliography under discussion there seems to be no reason why it should not have been paged continuously with the journal in which it appeared.

All such matters should be simplified to the utmost, tending toward ease and certainty of ascertaining the exact contents of a given volume, or of a given series. To this end I would suggest the desirability of future Ten-year Indexes to 'The Auk' receiving volume numbers as parts of the series of that journal. Then, holders of files would know without doubt the exact status of their series; as it is, the several Auk Indexes are independent, unnumbered publications. 'The Condor' has met this problem in what seems to me to be a still more unsatisfactory way. The Ten-year Indexes to 'The Condor' form numbers 6, 13, and 20 of the 'Pacific Coast Avifauna' series. To have the indexes of one serial form numbered parts of another serial is a needless complication. Librarians aiming toward the completeness of their files are forced to include useless numbers in their 'Avifauna' series, and to purchase second numbers to accompany 'The Condor.'

Then another, quite different subject. In 'The Condor,' vol. II, 1900, p. 41, there appeared a communication from Robert Ridgway urging that in any published notes the scientific names of birds "should *always* be given, whether accompanied by the vernacular name or not." His reasons were absolutely convincing—at least sufficiently so to have made an impression on the editors of that journal that has lasted to the present day. It was a great surprise to the writer to find in his labors on 'The Auk' index to what an extent this rule had been ignored; there are many important

records in 'The Auk' that can not be cited in formal synonymy simply because there is no name by which to cite them. For example, to take one issue that I happen to have been consulting recently, vol. XLVIII, January, 1931. On page 114 there is an item entitled "White Herons at Lincoln, Mass." I do not doubt that the author knew what the birds were, but can anyone else hope to be informed? There are other "Egret" records in the same issue that are just as hazy. In another place (Vol. XLV, 1928, pp. 471–474), an extremely important paper, giving information that I infer is not elsewhere on record, nowhere includes the specific name of the bird described. I may be excused for stressing this matter in the light of Ridgway's criticism of 'The Condor' for exactly the same thing. It is not only a matter of omitting the scientific names of birds and giving clearly recognizable vernacular names (these can be properly assembled in the index, though never cited elsewhere), but there are more than a few instances, as of the "White Herons" mentioned above, that can not even be "indexed."

As opposed to these reluctant criticisms, or suggestions, rather, it is a great pleasure to comment upon the invaluable "review" department of 'The Auk.' Even in this department I might suggest, however, that if "W. L. M.," in those occasional ornitho-entomological reviews where several articles are treated in one combined summary, would give titles and authors in full, as he does not always do, it would by that much lessen the strain upon a fatigued indexer, suddenly confronting a difficult situation.

H. S. Swarth.

[We have engaged in sufficient bibliography and indexing to sympathize with Mr. Swarth and we cheerfully admit the justice of his specific criticisms of 'The Auk'—from the bibliographic standpoint. The editorial standpoint, however, must also be given consideration as well as the wishes of the generous patron who contributes the cost of special publications.

Complications arise at the last moment which are hard or impossible to meet and the editor has always regretted the failure to include the bibliography referred to in the contents of the issue. It was impossible to page it continuously and, when it was decided to add it to the October number, it was too late to more definitely connect it with that issue.

The "White Heron" reference should of course have had the technical name added—its omission by the author was not noticed until too late. As to other "Egret" references it should be born in mind that "Egret" was in January, 1931, the recognized English name for the "American Egret" (*Casmerodius alba egretta*).

As to requiring a technical name for every mention of a bird there is room for difference of opinion and we fear the bibliographer must take things as he find them, just as he must take the aggravatingly inappropriate titles that he continually encounters. 'Bird-Lore,' for example, rarely uses a technical name and yet to ignore the wealth of information contained in its pages would be ridiculous. Moreover, there is rarely ambiguity in the

use of English names—no more indeed than in the use of the ever changing technical names.

As to the issue of the indexes as regular numbers of 'The Auk' the treasurer would probably have someting to say! This practice would entitle every subscriber and member to receive them without extra charge and vastly increase the cost to the Union with practically no return. It is the sale of these publications that makes them at all possible.

Mr. Swarth is bibliographically right on every count but in these days of financial and editorial stress there are other angles to be considered.—Ed.]

Migrating Dovekies and the Polar Ice Cap.

Editor of 'The Auk.'

In the account of the "Dovekie Influx of 1932" (Auk, July, 1833) John Treadwell Nichols suggests (p. 348) that the hordes may have come from Old World breeding grounds; while in the April issue (p. 216) Ira N. Gabrielson mentions "a great southward movement of unusual northern sea-fowl off the Oregon coast." Admiral Byrd in his 'Little America' and Gould in his 'Cold' have pointed out that the polar ice cap influences the weather conditions for the rest of the world.

These statements taken together are very interesting to those of us who sailed up to the polar ice pack north of Spitzbergen in August, 1932, and found this impenetrable barrier at 80° 30′ N. Lat., sixty miles farther south than it had been when the motor yacht "Stella Polaris" had made the trip, the year before. The southward movement of the ice pack augured an unusually severe winter cold to follow and it would seem to have had an immediate effect on the birds.

We found Dovekies and other species nesting by tens of thousands on "Bird Rock" some sixty miles south of Bear Island a little south of Spitzbergen.

Elizabeth Day Palmer.

1741 S. Harvard Boulevard,
Los Angeles, Calif.

OBITUARIES.

THE American Ornithologists' Union has again suffered a severe loss in the death of one of its best known and respected Fellows.

Otto Widmann, elected at the second meeting, in 1884, died at his home in St. Louis, Missouri, on November 26, 1933, aged ninety-two. His long and eventful life had covered a greater span than that of any other American ornithologist.

Born in Germany he came to St. Louis in 1867 where he engaged in pharmacy until retiring from business in 1899. Every spare moment, however, was devoted to the study of ornithology and he published a number of contributions to bird life and a standard work on the birds of Missouri.

Many members of the Union will recall his attendance at one of the Washington meetings and at the San Francisco meeting of 1915. He was a delightful companion and possessed a charming personality which endeared him to all with whom he came in contact.

The President of the Union will appoint a biographer to prepare a memorial address to be read at the next meeting which will later be published in 'The Auk,'—W. S.

JUST as we go to press we learn with sincere regret of the death of Dr. Ernst Hartert an Honorary Fellow of the American Ornithologists' Union and recently elected Honorary President of the Deutsche Ornithologische Gesellschaft. A biographical notice will appear in the April issue of 'The Auk.'—W. S.

HERBERT KEIGHTLEY JOB, elected an Associate of the American Ornithologists' Union in 1896 and a Member in 1901, died after a protracted illness, at Delmar, N. Y., June 17, 1933, in the 69th year of his age. He was born in Boston, Mass., Nov. 29, 1864, the son of Daniel Ward and Susan Grey (Adams) Job. He graduated from Harvard in 1888, from the Hartford Theological Seminary in 1891, and on September 10 of the same year married Miss Elsie Ann Curtiss, of Mayville, N. Dak. From 1891 to 1898 he was pastor of the Congregational Church at North Middleboro, Mass., and for the next ten years at Kent, Conn., when he retired from theological work.

In 1908 Job became State Ornithologist of Connecticut and a member of the faculty of the Connecticut Agricultural College, a position which he retained for six years. He then became Economic Ornithologist in charge of applied ornithology, and in 1918 director of the Summer School and Ornithological Experiment Station of the National Association of Audubon Societies at Amston, Conn. In 1926 Job transferred his activities to the

South, where he became field agent of the Association for South Carolina and carried on educational work for four or five years, arousing much popular interest in birds and bird protection. At the conclusion of this work he became associated with the Game Commission of Virginia, and, until his health failed, edited the publications and directed the educational work of the Commission.

At the time of his election to the Union, Job contributed frequent notes to 'The Auk' and whenever possible made an extended trip each summer to some point of interest. With the advent of bird photography he became an ardent devotee of the camera, and was successful in securing excellent photographs and moving pictures in many interesting regions. He visited the Magdalen Islands, the prairie Provinces of Canada, the bird colonies of North Dakota, the South Atlantic Coast, and the delta of the Mississippi in Louisiana. Among his notable pictures were those of various species of water-fowl and particularly of the Blue Goose.

In 1902 he published 'Among the Water Fowl,' in 1905 'Wild Wings,' and in 1908 'The Sport of Bird Study.' These books were followed by 'How to Study Birds,' 1910, the 'Blue Goose Chase,' 1911, and 'Propagation of Wild Birds,' in 1915. A letter from President Theodore Roosevelt, commending his first book was published in the introductory pages of 'Wild Wings.'

Job was much interested in the propagation of game birds and during his work at Amston devised a plan of collecting eggs of water-fowl on the breeding grounds in Canada, hatching the eggs in incubators, and transporting the young birds when only a few weeks old. In this way he succeeded in raising Canvas-backs, Redheads and other species which do not ordinarily breed in captivity.—T. S. P.

Lemuel Fox Woodward, an Associate of the American Ornithologists' Union since 1917, died at Worcester, Mass., Nov. 12, 1931, in the 75th year of his age. He was born in Worcester, April 26, 1857, the son of Dr. Rufus and Jane (Fox) Woodward, and was educated in the local schools. After graduation from the high school he took a course at the Lawrence Scientific School and later graduated from the Harvard Medical School, from which he received his degree in 1881. During college days he conducted classes in swimming for boys at Lake Quinsigamond, was a member of the Quinsigamond boat club and at Harvard stroked his varsity crew.

From his father, Dr. Woodward inherited a love of nature, and from childhood was interested in several branches of natural history. He knew the wild flowers, put up bird boxes on the grounds of the Quinsigamond boat club and kept a 'nature calendar' and records of bird migration. It was his ambition to be the first to report the arrival of the Mourning Dove in the spring. He was particularly interested in the migration of the Red-winged Blackbird and the Swallows and kept a careful record of the arrival and departure of the Nighthawks which nested on the roofs in the vicinity of his home.

Dr. Woodward was one of the early members of the Nuttall Ornithological Club. He was elected a Resident Member in 1876 but resigned three years later and in 1880 was elected a Corresponding Member. He was an active member of the Worcester Natural History Society, served as its president for several years, and at the time of his death was one of the trustees of the Society.—T. S. P.

Frank Warren Langdon, an Active Member of the American Ornithologists' Union from 1887 to 1897, died after a long illness, at Cincinnati, O., June 9, 1933, at the advanced age of eighty years. He was born in that city December 16, 1852, the son of Oliver Cromwell and Jane Dorsey Langdon and was a grandson of Elland Potter Langdon, one of the early settlers of Cincinnati. After attending the local public schools he graduated from Miami Medical College in 1881 and entered on the general practice of medicine. Later he studied neurology and psychiatry in Paris and London and upon his return from Europe specialized in mental and nervous diseases, a field in which he gained national prominence. In later years he limited his practice to consultations in medical and nervous diseases.

At the age of twenty-five Langdon began to publish on birds and his contributions appeared chiefly in the 'Journal of the Cincinnati Society of Natural History' and the 'Bulletin of the Nuttall Ornithological Club.' His contributions to 'The Auk' were limited to two short papers in the early volumes. He was one of the first Active Members to resign from the Union and gave up his membership in 1897, when the exigencies of his medical work demanded his full attention. As an ornithologist he is best known as the author of several papers on the birds of Cincinnati and as the describer of the Cincinnati Warbler (*Vermivora cincinnatiensis*). This form based on a specimen which he collected at Madisonville, Hamilton Co., Ohio, May 1, 1880, is now regarded as a hybrid between *Vermivora pinus* and *Oporornis formosa*.

Dr. Langdon took an active part in the work of the Cincinnati Society of Natural History and for a time was a member of its publishing committee. He was also a member of the Linnean Society of New York, the Nuttall Ornithological Club, the Boston Zoölogical Society, and several medical societies. In addition to his medical contributions he published occasional articles on archaeology.

He was married in 1884 and outlived both his wife, Rhoda Fletcher, of Richmond, Ind., and his two children, Fletcher and Rowena.—T. S. P.

Frederick Gilmer Bonfils, a Life Associate of the American Ornithologists' Union since 1918, died after a brief illness at Denver, Colo., February 2, 1933, at the age of seventy-two. He was born at Troy, Mo., December, 31, 1860, and was the son of Eugene Napoleon Bonfils. He traced his family back to Napoleon Bonaparte's mother but the name Bonfils was assumed by his grandfather who had escaped from slavery in Tunis and made his way to Salem, Mass.

Young Bonfils was educated at West Point, worked for a time in the Chemical National Bank in New York, and in 1889 joined the land rush to Oklahoma when the Indian Territory was opened to settlement. He took part in developing the city of Guthrie and, after accumulating a fortune in real estate, moved to Kansas City and later to Denver. Here he met H. H. Tammen and together they purchased the Denver 'Post,' introduced a new type of journalism and dedicated the paper to the service of the people. At the head of every crime story appeared a line in parenthesis 'crime never pays.' The journal greatly increased its circulation and reputation especially after its sensational uncovering of the Teapot Dome oil scandal.

Bonfils loved animals and birds and prided himself on the number of children he had aided in recovering lost pets. With his partner he purchased the Gentry Dog and Pony Show and a small circus owned by William Sells, which they renamed the Sells-Floto Circus and operated from 1904 until 1921. Tammen undertook the active management and toured the country with the show until they disposed of their interests. After Tammen's death in 1924, Bonfils became sole owner of the 'Post' which he continued to direct under a militant and aggressive policy. He was a dynamic, independent publisher and declared that he had no political ambitions and no favors to ask of any public officer. He was well known to men in public life and was characterized by the Governor of Colorado, E. C. Johnson, as a hard fighter for the right as he saw it.—T. S. P.

Norman Criddle, an Associate of the American Ornithologists' Union since 1918, died as the result of an operation, at the Brandon Hospital in Brandon, Manitoba, May 4, 1933, at the age of fifty-eight. He was the son of the late Mr. and Mrs. Percy Criddle and was born at Addlestone, Surrey, England, May 14, 1875. At an early age he accompanied his parents to Manitoba where from 1882 to 1905 he engaged in farming. He then began work as a technical artist and his drawings were used to illustrate the 'Dominion Department Weed Book' and also 'Fodder and Pasture Plants.' In 1910 he went to Ottawa to join the Seed Branch of the Department of Agriculture and the following year was transferred to Calgary, Alberta, where he remained until 1913. He then entered the Division of Entomology in Manitoba and soon became prominently associated with entomological activities in that Province. He was one of the best known senior officers of the Entomological Branch of the Dominion Department of Agriculture, and took a prominent part in the grasshopper control campaign in 1932.

Mr. Criddle's interest in birds evidently began quite early. In 1895 at the age of twenty he began sending observations on bird migration to the U. S. Biological Survey and from that time until his death maintained an almost uninterrupted series of migration reports. His published papers numbered about 125, half of them on entomology, 32 on birds, and a few on other subjects. Most of the ornithological contributions appeared as

notes and short papers in the 'Ottawa Naturalist' and the 'Canadian Naturalist.' In 1907 he published a short note in 'Bird Lore,' and in 1922 contributed to 'The Auk,' 'A Calendar of Bird Migration' based on observations of more than 130 species made at Aweme, Manitoba. Mr. Criddle was a member of a number of scientific societies, including the Entomological Society of Ontario, the Entomological Society of America, the Ottawa Field Naturalist's Club (President in 1926 and 1927), the Natural History Society of Manitoba (honorary president, 1925 to 1928), and Chairman of the International Great Plains Crop Pest Committee from 1921 until his death.

Criddle, while primarily an entomologist, was a good ornithologist, a technical artist, and an all-round naturalist regarded as an authority on the species native to the Prairie Provinces. He was unmarried and is survived by three brothers and three sisters. He is buried at Treesbank, Manitoba.—T. S. P.

Edward Bruce Williamson, an Associate of the American Ornithologists' Union since 1900, died at his home in Ann Arbor, Michigan, on February 18, 1933.

He was born in Marion, Indiana, July 10, 1877. He graduated from Ohio State University in 1898, and became Assistant Curator of Insects at the Carnegie Museum, from which he resigned after a year to teach science in the High School of Salem, Ohio. During the year 1900–1901 he was a Fellow at Vanderbilt University. Then in 1903 he went into the banking business, becoming cashier and later president of the Wells County Bank at Bluffton, Indiana, a position which he retained until 1928.

Although most of his later work was in other fields, the first concrete evidence of his tremendous enthusiasm for natural history was a collection of birds begun when he was but fourteen years of age. The several ornithological titles included in his extensive scientific writings cannot be cited here but will be found in his complete bibliography to be published in the annual report of the University of Michigan Museum of Zoölogy for 1932–33.

Dragon-flies were his chosen field and their study not only occupied his evenings and spare moments for thirty-five years but led him to undertake extended expeditions to Guatemala, Trinidad, British Guiana, Panama, Colombia, Venezuela, and many parts of North America. In 1916 the University of Michigan gave official recognition of his world eminence in this field by appointing him Honorary Curator of Odonata, and in 1928 he was called to Ann Arbor as a resident member of the University faculty.

His other major interest was iris breeding, at which he was very successful, originating many well-known varieties at his famous iris farm at Bluffton. For many years he served as Vice President of the American Iris Society.

He is survived by his widow, Anna Tribolet Williamson, and three daughters.—Josselyn Van Tyne.

JOHN CHRISTOPHER O'CONOR, a life associate of the American Ornithologists' Union since 1921, and one of the finer types of sportsmen, died on March 4, 1933, at his home in New York City. He was born in Brooklyn, New York, on August 20, 1847, and twenty-three years later graduated from the Law School of Colombia University. In the Eighties he was a member of the Board of Aldermen of New York. He was a member of the Society of Colonial Wars, of the Union League Club, and of the New York Yacht Club. His interest in game and its proper protection led him to join the New York Association for the Protection of Game, one of the oldest, if not the oldest organization in this country which worked for game protection. It was organized May 20, 1844, and was incorporated in 1884. O'Conor was Secretary of the Association for a long period. As one of its delegates he often went to Albany to appear before Legislative Committees to speak in behalf of game and other birds. He and five or six other sportsmen purchased in severalty a large area of land, just north of Back Bay, Virginia, known as Sand Bridge, which became an ideal shooting box, under his careful and well planned management. He believed in moderation in shooting, and that sportsmen should rear game to liberate so that there always would be a supply. From 1906 and for nearly twenty-five years following, he had at least 500 Mallards reared, and later liberated. He believed also in feeding the birds after the close of the shooting season, especially in inclement weather when the natural food was difficult for the birds to secure.

It certainly was a novel and interesting sight to see flock after flock of Ducks, as sunset approached, come hastening to the two-acre barn yard where corn was being shelled. When all was ready the keeper sounded a horn, a signal to the Ducks that dinner was being served. They had learned the call, for the sound barely had died before it was replaced by that of the rush of wings, and the ground soon was covered by a noisy multitude at the moment fearless of man. This gave O'Conor a great thrill, for although he did not have a wide acquaintance with the different birds he was fond of them.

He was a high type of sportsman, a man of fine attainment, and a wonderful host. To those who knew him well, it was a pleasure to visit with him and an event to look forward to.—A. K. FISHER.

NORMAN JEFCOATE ATKINSON, an Associate of the American Ornithologists' Union since 1931, died—the result of an unfortunate accident—at the Ottawa Civic Hospital on November 1, 1932, in the 31st year of his age. He was a native of North Wales, being born near the little town of Rhayader on April 11, 1902, and had been a resident of Canada for the past ten years. He was very well educated, being a graduate of the University of Saskatchewan, at which institution he had obtained two gold medals, one for his work on his M.A. degree, and the other for his final year in biology. At the time of his death Mr. Atkinson was in charge of all biological work in the area surrounding Lucerne-in-Quebec, and had

recently been put in charge of stream improvement as well. He was proficient in his chosen profession, his services often being secured as consultant ichthyologist by various fishing clubs, a member of one of which writes me as follows: "His report was most interesting and valuable and all the club members who came in contact with him were of one accord in saying that 'he was one of Nature's noblemen.' He was reserved and unassuming but efficient and systematic to the highest degree." In a letter from his brother he informs me that after they left Rhayader in 1905 the family always resided near large towns but within reach of the country. As far as he remembers, his brother Jefcoate started keeping caterpillars when he was about eight years of age, and his interests—as soon as he had any—always ran more or less in that direction, the study of birds evidently being of quite a recent date. He was a frequent contributor, I understand, to the "Seigneur," the official organ of Lucerne-in-Quebec which is published monthly.—H. Mousley.

Edgar Crane Stiles, an Associate of the American Ornithologists' Union since 1907, died at New Haven, Conn., August 29, 1933. He was born at Hartford, Conn., October 7, 1863, graduated from Yale University in 1886, and took up teaching and school administration as his profession. After some time in the schools of Litchfield, Norfolk, and Seymour, Conn., he became Superintendent of Schools at West Haven, Conn., a position he held for thirty-six years, until his death.

Mr. Stiles was always interested in natural history and a firm believer in the value of this subject in the education of young people. His more active interest in birds began in 1907 with the formation of the New Haven Bird Club, of which he was a charter member and its first president, serving, with the exception of one year, from 1907 to 1925. Whenever possible he attended the annual meetings of the American Ornithologists' Union, and thoroughly enjoyed them.

Rather late in life Mr. Stiles married Miss Edna Morgan, who shared with him his love of birds and nature, and accompanied him on most of his field trips. Her death preceded his by about a year. He was a man of strong personality. While he dominated in school affairs, he did so with high idealism, a strong sense of duty, and the welfare of the schools closest to his heart.—Aretas A. Saunders.

NOTES AND NEWS.

After completing fifty volumes 'The Auk,' it was hoped, might start upon its second half century with ambitious plans for better and larger issues which would take care of the constantly increasing number of excellent contributions which are being offered by the ornithologists of America. Unfortunately owing to financial conditions no such hopes can be realized at present and the journal will be fortunate to maintain the status of the past few years. Inability of a large portion of the members to pay their dues has very seriously affected the finances of the Union and has made it necessary to reduce both the size of the edition and of the issues as well. We shall, however, do our best to publish submitted papers as soon as possible and maintain the departments of "General Notes" and "Recent Literature" at approximately their present size, although brevity in contributions to both is a necessity.

The Nuttall Ornithological Club, parent of the A. O. U., celebrated its sixtieth anniversary on December 4, 1933, at a regular meeting held at the home of Mr. Charles F. Batchelder in Cambridge, Mass. Upwards of forty members were in attendance and after a supper provided by Mr. and Mrs. Batchelder the annual election was held and Dr. Glover M. Allen, the president, reviewed the life of Thomas Nuttall and referred to the activities of some of the members of the Club while Mr. Lawrence Kilham a member of the recent Harvard East Greenland Expedition read an interesting account of the experiences of the party.

In spite of all efforts for their conservation the supply of Ducks in North America seems to steadily grow less. When Mr. Henderson, the representative of the Biological Survey, says that "the future of our wild fowl is in the balance" and that "it may become necessary to close the season for a year," while Dr. Pearson, of the Audubon Societies, states that "there may be witnessed in this generation a cessation of the hunting of wild water-fowl as a sport," we realize that a crisis is upon us. The reasons given on all sides are over-shooting; draining and cultivation of former breeding areas and the long continued droughts of recent years. All sportsmen should realize the seriousness of the situation and stand ready to coöperate fully with the authorities.

Most interesting papers on this and other allied topics as well as bird-banding are to be found in the 1933 report of the New England Game Conference published by the Massachusetts Fish and Game Association, Museum Comp. Zool., Cambridge, Mass., as well as in the 'More Game in America' publications (cf. *antea* p. 112).

Lieut.-Col. H. F. Stoneham founded in 1926, at Kitale, Kenya Colony, East Africa, the "Stoneham Museum and Research Centre," and has recently issued a circular setting forth the objects and opportunities

offered by the Centre. "As Science acknowledges no political or racial barriers, scientists of all nationalities are welcome to coöperate in the vast work of Research in the African Continent."

British Ornithologists have set forth a scheme for the establishment of a "British Trust for Ornithology," an extension of the Oxford Centre idea by which an institute of ornithology may be established as a national headquarters for field observation, where individual investigations and coöperative work may be encouraged, expert direction given and observers trained. An appeal is issued for financial support to make this establishment possible and contributions are to be sent to Mr. B. W. Tucker, Treasurer, University Museum, Oxford.

This plan seems well worth while and is quite in line with present day ornithological research which is paying more attention to the study of the live bird as offering great opportunity for valuable work by the increasing number of earnest field ornithologists.

A correspondent of 'The Auk' calls attention to a glowing tribute to the work of Dr. A. K. Fisher during his forty-six years service in the Bureau of Biological Survey, U. S. Dept. of Agriculture, which was made by Senator Sheppard and published in the 'Congressional Record' for February 25, 1933. Our correspondent adds: "Whereas the halls of the Federal Congress often resound with the extolled virtues of saints and sinners of varied merit one seldom hears the echoes of praise of one who has devoted his life to the study of the natural sciences. I do not recall another instance in which such peaens of praise have tempered and enriched beyond measure the general flow of political buncombe. I certainly cannot remember any other past-president of the A. O. U. being so honored."

Dr. Einar Lonnberg, Director of the Royal Museum of Natural History at Stockholm, Sweden, since 1904, retired in December 1932, on account of old age. He still retains his desk at the Museum and his position as Director of the Marine Zoological Station of the Academy of Sciences.

The Massachusetts Legislature has made a step backward in conservation policies in abolishing the position of State Ornithologist, a post so ably filled by the late Edward Howe Forbush and by his successor Dr. John B. May. We trust that the next session of the Legislature may see fit to restore this important position.

George H. Mackay of Brookline and Nantucket, Mass., an Associate of the A. O. U. and contributor to 'The Auk' since 1890, passed his ninetieth birthday on October 20, 1933, being the second American ornithologist to reach that milestone. 'The Auk' offers him its sincere congratulations and expresses the hope that it may continue to publish his ornithological observations.

The sixty-fifth Stated and eleventh Annual Meeting of the Baird Orni-

thological Club was held at the home of Ernest P. Walker, 3016 Tilden St., N. W., Washington, D. C., on March 24, 1933. Sixteen members were present. Officers elected for the ensuing year were: President, Dr. T. S. Palmer; Vice-president, Dr. Paul Bartsch; Secretary, Mr. Frederick C. Lincoln; Council, Dr. Herbert Friedmann and Mr. A. H. Howell.

Among other speakers Dr. A. Wetmore presented an interesting account of his study of the nictitating membrane of the Water Ouzel, and Dr. Friedmann gave an account of his studies of the so-called "red-quail" of Grand Junction, Tennessee.—FREDERICK C. LINCOLN, *Secretary.*

THE Twentieth Game Conference will be held at the Hotel Pennsylvania, New York City, Jan. 22–24, 1934.

Beside the general sessions, there will be a Scientific Round-table and a Game Breeding Forum. The first day will be devoted to conferences on game breeding and wild life research, the second to discussion of the water-fowl situation and the third to general conference topics. Members of the Union will find much of interest in these sessions.

Further information may be obtained from Seth Gordan, President of the American Game Association, Investment Building, Washington, D. C.

THE AUK

A Quarterly Journal of Ornithology

ORGAN OF THE AMERICAN ORNITHOLOGISTS' UNION

Edited by Dr. Witmer Stone

ACADEMY OF NATURAL SCIENCES, LOGAN SQUARE

PHILADELPHIA, PA.

To whom all articles and communications intended for publication and all books and publications for review should be sent.

Manuscripts for leading articles must await their turn for publication if others are already on file, but they must be in the editor's hands at least six weeks before the date of issue of the number for which they are intended, and manuscripts for 'General Notes,' 'Recent Literature,' etc., not later than the first of the month preceding the date of issue of the number in which it is desired they shall appear.

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